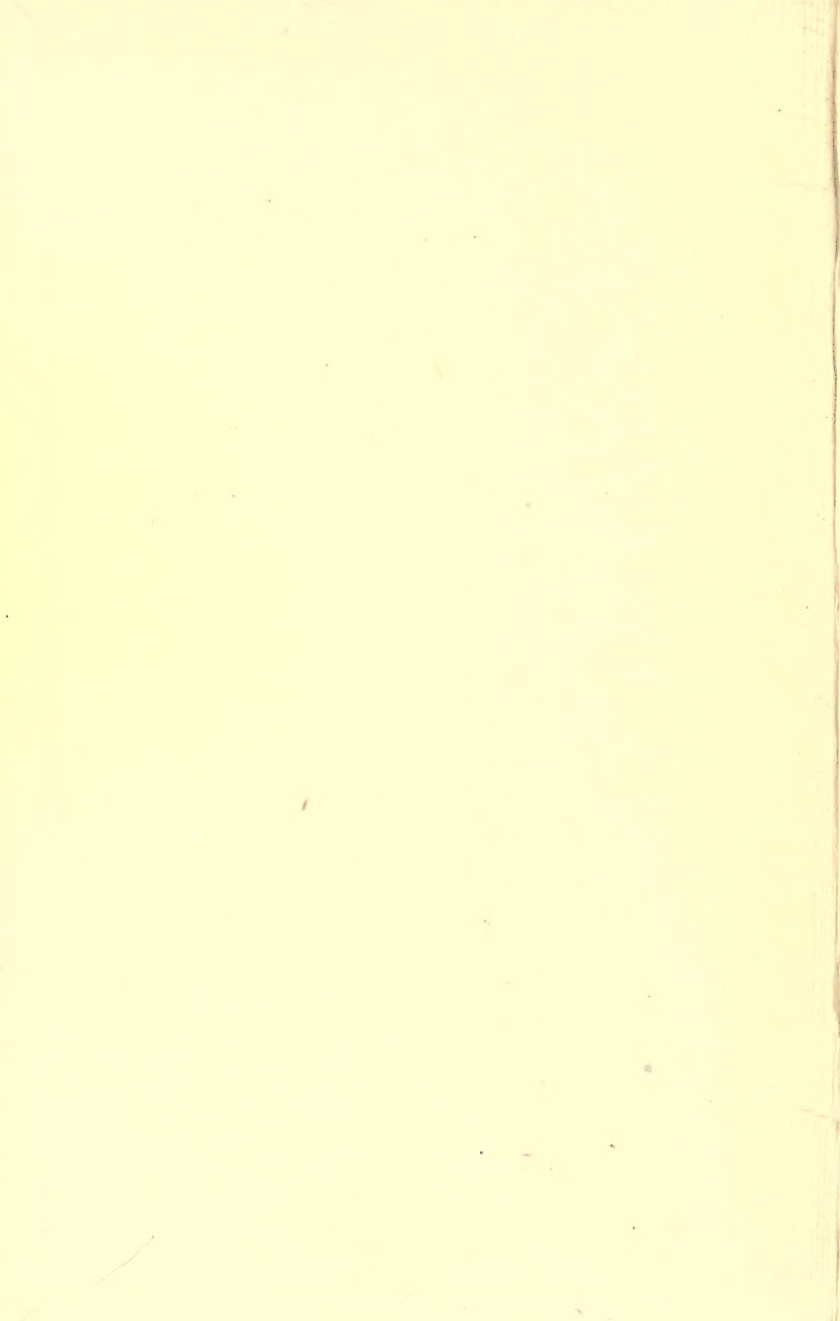
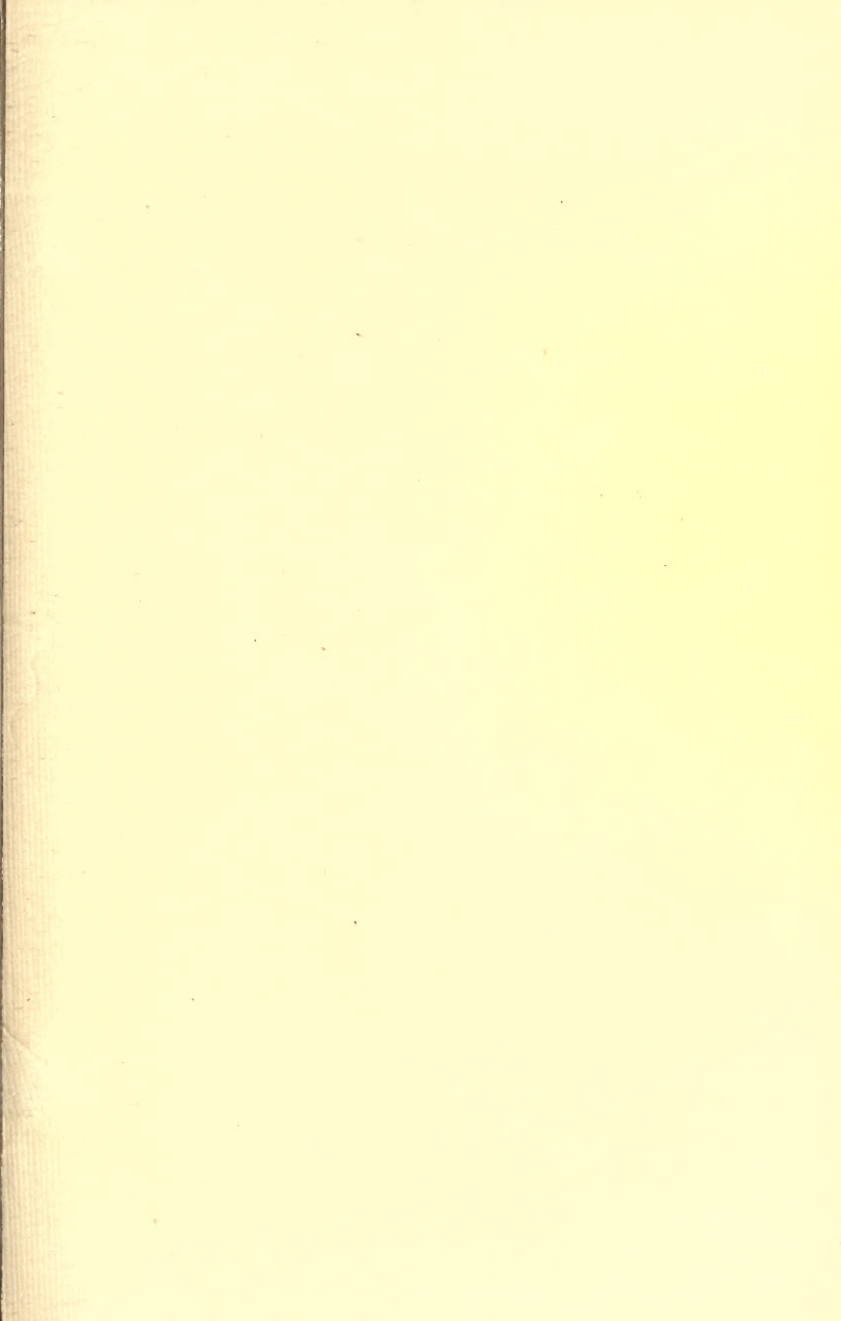




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The Existential Import of Categorical  
Predication

Studies in Logic

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# The Existential Import of Categorical Predication

## Studies in Logic

By

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DEDICATED TO  
MY TEACHER  
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IN HUMILITY AND REVERENCE.



## PREFACE.

THE following *Studies* are based on a Dissertation which the author submitted to the Special Board for Moral Sciences of the University of Cambridge, in 1900, and for which he was awarded a *Certificate of Research* certifying the work to be "of Distinction as an original contribution to learning." The substance of the Dissertation has been considerably amplified in the following pages, which it is hoped may be of service in the elucidation of a rather obscure subject.

The author gladly avails himself of this opportunity to acknowledge gratefully his indebtedness to Prof. James Sully, Prof. James Ward and Dr J. N. Keynes for their kind encouragement and help.





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## INTRODUCTION.

### § 1. THE SCOPE OF THE INQUIRY.

IN the chapter "On the Import of Propositions, as regards the Actual or Conventional Existence of their Subjects and Predicates<sup>1</sup>," Dr Venn remarks that the group of topics, which he discusses there, are by no means confined to Symbolic Logic, and that "they should, in fact, have been so thoroughly treated elsewhere, and decided one way or the other, that a mere reference here would have sufficed instead of a somewhat elaborate explanation and justification of the view to be adopted." The object of this essay is to furnish such an independent treatment of the group of topics to which Dr Venn refers; though the scope of the inquiry has here been considerably enlarged, and the conclusions arrived at are not quite what Dr Venn seems to have confidently anticipated from such an independent investigation.

It is only since recent times that the problem of the Existential Import of Predication has received special attention. Its germs, however, may be traced already in Plato and in Aristotle. With so long a history behind it, it is but natural that its precise form

<sup>1</sup> *Symbolic Logic* (2nd ed.), ch. vi.

should have varied from time to time. In Plato we find it to some extent involved in his doctrine of Ideas. In Aristotle it turns on the meaning of the copula, a form which it has retained till the time of John Stuart Mill and some of his critics (Jordan, for instance). In the Middle Ages it is partly involved in the controversy between Nominalism and Realism, but more so in the doctrine of the *Suppositio*, to which the comparatively recent doctrine of the Universe of Discourse may partly be traced. In modern times the problem has reappeared in a somewhat new aspect in discussions on the relation of Categorical to Hypothetical Judgments. Excepting, however, a chapter in Dr Venn's *Symbolic Logic*, another in Dr Keynes's *Formal Logic*, and some incidental remarks in various treatises on Logic, Psychology, and Epistemology, the problem has not yet been separately investigated. Hitherto it has, in fact, received neither separate nor independent treatment. Such attention as it has received has usually been with a view to some ulterior purpose, namely, either to confirm some special theory of Judgment (Herbart, Brentano, Marty, and others), or with a view to the peculiar requirements of Symbolic or Formal Logic (Venn, Keynes, and others). In this essay, on the other hand, the problem will be treated on its own merits, and the whole group of connected topics will be considered without regard to mere expediency. The question as to what is relevant, what irrelevant to such an inquiry, is one on which there may naturally be some difference of opinion. To the present writer it seemed expedient to examine all such topics as the history of the problem has shown



to be relevant, so that, without overburdening the essay with uninteresting historical details and numerous criticisms of individual thinkers, it may nevertheless contain, as far as practicable, all the material necessary for dealing with the leading views on the subject. The task of avoiding the two extremes, namely, of writing too much or too little, is not an easy one. For the subject teems with occasions for digressions some of which are far more important and more interesting than the main theme. One is therefore tempted either to pass by such incidental topics altogether, or else to treat them at disproportionate length.

## § 2. PLAN OF TREATMENT.

As regards the general plan of the essay a few remarks may help to make it clear. The problem of the Existential Import of Predication may be provisionally described as "the question whether the assertion of a categorical proposition necessarily implies that its terms are the names of actually existing things<sup>1</sup>." Owing chiefly to confused conceptions about many universes of discourse and corresponding forms of existence, there seems to be considerable uncertainty as to what is actually meant by saying that the terms of a proposition are the names of existing things. Accordingly it is our first business to settle precisely with which of the several aspects of terms or names this inquiry is more immediately concerned. The first chapter is therefore devoted to a discussion on some aspects of Names in order

<sup>1</sup> Keynes, *Formal Logic* (3rd ed.), p. 182.

to elucidate this point. Our next requirement is an explicit account of what we are to understand by Existence or Reality. And that is the theme of the second chapter. Having thus cleared the ground, the third chapter treats of the existential import of categorical propositions in general. The fourth chapter is devoted to a more detailed inquiry into the existential import of the several kinds of categorical propositions, while the fifth, and last, chapter indicates the bearing of our results on Formal and Symbolic Logic.

## CHAPTER I.

### NAMES.

#### § 1. SOME ASPECTS OF NAMES.

EVEN if we ignore the more palpable forms of ambiguity, it may be shown that even then names are not altogether unequivocal. For they still retain a number of different aspects for any one of which the same term often does duty. This fact did not escape the acute intellects of Medieval thinkers. It is indeed nothing uncommon to find in Scholastic treatises on Logic an elaborate account of some sixteen different aspects, *significationes* and *suppositiones*, of names. For our purpose, however, it is not necessary to enter fully into these Scholastic subtleties; a simpler mode of treatment will suffice.

In the case of a term like "Man" four distinct aspects may be distinguished, namely, (1) *the suppositio materialis*; (2) the subjective intension or empirical idea; (3) its meaning or its logical signification; and (4) its objectivity or reference. The signification of these aspects will be unfolded in their order, and an attempt will be made to show that they are common characteristics of all terms.

## § 2. SUPPOSITIO MATERIALIS.

By *Suppositio Materialis* the Schoolmen understood the use of a word as a mere combination of sounds or of letters. To it they opposed the *Suppositio Formalis* or the employment of a name in one of its significations. The antithesis might be expressed as that between what a name or word is and what it symbolises, or as that between what a term presents as distinguished from what it represents. Thus, for example, in the proposition, *Homo est dissyllaba dictio*, the subject, it was said, *supponit materialiter*; in *Homo est animal*, on the other hand, the same subject-term, it was said, *supponit formaliter*. It will be seen from this that the *suppositio materialis* is that aspect in which the subject-term is generally used in strictly hermeneutical and etymological statements. It is, moreover, self-evident that all words, and therefore all names, have this aspect.

## § 3. SUBJECTIVE INTENSION OR EMPIRICAL IDEA.

By *Subjective Intension* or *Empirical Idea* is to be understood the natural mental equivalent of a name, or the psychical process occasioned by it. Every term must have this aspect. For to use a name in a proposition without having some mental equivalent for it would be tantamount to using it unconsciously or at least unintelligently. In any case there would be no real judgment. There is a slight difference of aspect between subjective intension and empirical idea. The distinction will be explained further on (section 6), but may be neglected here.

## § 4. MEANING, OR LOGICAL IDEA OR CONCEPT.

In contradistinction to the subjective intension or empirical idea, the meaning of a term may be described as the relatively objective idea<sup>1</sup>. The empirical idea may, and usually does, vary with different people, and even with the same person on different occasions. In contrast to this, each term (except when it is ambiguous and so equal to two or more distinct terms) has but one meaning, which is the same for all and on all occasions. Thus whereas the subjective or empirical ideas corresponding to any one term are dependent on the individual thinker and on the particular occasion, the meaning or logical signification of the same term is relatively independent of any particular thinker or occasion. The relation of the meaning of a term, or the logical concept, to its corresponding empirical ideas has been compared to that between the signification of signal flags and the particular flags themselves—their signification is not affected if different bits of cloth are used on every occasion<sup>2</sup>. “The idea in the sense of

<sup>1</sup> Bolzano, in fact, uses the expression *objective Vorstellung* in this sense (*Wissenschaftslehre*, I. § 48). The expression *conceptus obiectivus* is already found in Goclenius (*Lex. Phil.* p. 428), but with a different meaning. Already Suarez, however, seems to have used the expression *conceptus obiectivus* in our sense, namely, in contrast to the empirical idea, which he calls *conceptus formalis* (*Metaph. Disp.* I. p. 41). At first this seems contrary to the Scholastic use of the terms *objectivus* and *formalis*. But the explanation is not far to seek. Just as the empirical concept is, in Scholastic terminology, *objectivus* with reference to the real thing which it represents, so the logical concept is *objectivus* in relation to the empirical idea, which is to this extent *formalis*, though *objectivus* as compared with the thing which it represents.

<sup>2</sup> Bosanquet, *Logic*, I. p. 46.

mental image," says Mr Bradley, "is a sign of the idea in the sense of meaning<sup>1</sup>," which "consists of a part of the content (original or acquired) cut off, fixed by the mind, and considered apart from the existence of the sign<sup>2</sup>."

### § 5. THE HYPOSTASIS OF IDEAS.

The fact that the meaning of a term is relatively independent of any particular idea and of any individual mind, combined with the objectivity of names, of which we shall speak presently, has, ever since the days of Plato, led to the hypostasis of ideas. This is largely due to a misinterpretation by no means uncommon in the case of common names. The meaning of a term is simply the universal aspect of the individual empirical ideas; it is an abstraction from the latter. Now such an abstraction is, of course, perfectly legitimate; as such however it has not a truly objective, independent reality of its own. Only the individual, empirical ideas really exist; the abstract meaning as such, the logical concept, has no existence. "An idea," says Mr Bradley<sup>3</sup>, "if we use idea of the meaning, is neither given nor presented but is taken. It can not as such exist. It can not ever be an event, with a place in the series of time or space. It can be a fact no more inside our heads than it can outside them. And if you take this mere idea by itself, it is an adjective divorced, a parasite cut loose, a spirit without a body seeking rest in another, an abstraction from the concrete, a mere possibility which by itself *is nothing*." In so far as

<sup>1</sup> *Principles of Logic*, p. 6.

<sup>2</sup> *Ibid.* p. 4.

<sup>3</sup> *Ibid.* p. 8.



meaning is real its reality depends on the reality of the corresponding empirical ideas. Hence regarded as existents the difference between the empirical ideas and the meaning consists practically in this, that in the former we do, whereas in the latter we do not attend to the individuality of the idea called up by a name. When attending to the meaning of a term we ignore, as it were, the particular, individualizing characteristics of this and that empirical idea, and concentrate our attention on the permanent, universal elements alone. To this extent the meaning or logical concept is relatively independent of *any* of its empirical ideas; but it is not independent of *all* of them. Lotze seems therefore to be guilty of a fallacy of composition when he speaks of "the eternally self-identical significance of ideas which always are what they are, whether or no...there are spirits which by thinking them give them the reality of a mental event<sup>1</sup>." If there were no thinking spirits at all there could be no empirical ideas, and without empirical ideas there can be no "self-identical significance of ideas," which is only relatively, not absolutely independent of them<sup>2</sup>.

## § 6. HAVE ALL NAMES MEANING?

We answer this question in the affirmative. For some it will suffice if we adduce an *a priori* argument

<sup>1</sup> *Logic*, § 317. Lotze's view seems to be based on that of Bolzano (*Wissenschaftslehre*, I. § 48) who, more cautiously, however, describes the *objective Vorstellung* in its independence of thinking subjects "zwar nicht als etwas Seyendes, aber doch als ein gewisses Etwas."

<sup>2</sup> According to Plato, whom Lotze is here defending, ideas would be eternal even so, because there would always be God to contemplate them.





while materialist or nominalist logicians (like Mill, Bain, Venn and Keynes) are practically agreed on the opposite view, suggests that their differences may be largely due to their different ways of approaching the problem. And the concessions of Jevons, Keynes and others may help to indicate the line of reconciliation.

Materialist logicians approach the question from the external standpoint of the thing and its properties; conceptualist logicians approach it from the mental standpoint of the concept and its component ideas or ideal elements. Hence the distinctions drawn by the two are different. The materialist logician differentiates between the properties or groups of properties associated with a name; the conceptualist logician distinguishes between the component ideas in the mental equivalent of the name. Thus Dr Keynes, who has given us the clearest and most consistent statement of the materialist attitude on this point, differentiates between (a) Comprehension or Objective Intension, that is, "the sum-total of properties actually possessed in common by every member of the class" denoted by the name; (b) Connotation or Conventional Intension, that is, "properties...which the name implies...in its definition"; and (c) Subjective Intension, or "those properties which in the mind of any given individual are associated with the name<sup>1</sup>." The last distinction, it is true, brings us face to face with the mental or subjective aspect of the question. Dr Keynes tells us, in fact, that "we might perhaps speak more strictly of...the subjective intension of the notion which is the mental equivalent of the name." Be it observed, however, that it is still the

<sup>1</sup> *Formal Logic*, pp. 21 and 24.

objective properties on which stress is laid, not the ideal components of the notion. On the other hand Sigwart<sup>1</sup> distinguishes between (*a*) the Empirical Concept, that is, the idea as "a natural psychological production," the usual mental equivalent of a name; (*b*) the Logical Concept, or idea in the sense of meaning as explained in section 4 above; and (*c*) the Metaphysical Concept, or that ideal concept which if attained would "enable us to penetrate into the very heart of the thing, to understand it, *i.e.*, to see that its particular determinations as connected in it are the necessary consequence of its nature and unity." Just as Dr Keynes's last distinction carries us from the objective to the verge of the subjective aspect of the question, so Sigwart's last distinction brings us from the subjective to the objective standpoint. That seems natural enough. For, allowing for some comparatively slight differences which are due more or less to the initial difference in the attitudes of the two writers, the distinctions made by the one are the same as those made by the other, only turned inside out, if one may use the expression. Comprehension is the objective aspect of the metaphysical concept, and, in either form, could be within the ken of none but an absolute and divine intelligence in which, according to leading philosophers of many schools of thought, knowledge (the metaphysical concept) and being (comprehension) are one. Similarly subjective intension differs from the empirical concept or idea only as regards aspect; the former emphasizes the (objective) properties, the latter lays stress on their ideal equivalents. Lastly, the

<sup>1</sup> *Logic*, I. pp. 245 f.

divergence between connotation and meaning or the logical concept is rather greater, and it is just here that the difference in the two ways of approaching the question is most marked. To the materialist logician the part played by ideas in connecting names with things and attributes is of no logical interest. He passes immediately from names to things and attributes. How certain names have come to be associated with certain things or attributes does not concern him; all he is interested to know is that such and such names do stand for such things or attributes, etc. By ignoring the mental process in naming he is liable to overlook all but the broader distinctions in names. On the other hand, the conceptualist logician, thanks to his closer scrutiny of the mental factor, may observe finer distinctions and recognise the fundamentals of the more marked distinctions noted by the materialist logician even where the latter has entirely overlooked or ignored them. Of such nature is the difference involved in connotation *versus* meaning. Connotation represents the objectification of the component ideas of meaning in the case of names of more general interest. When the meaning of a name has come to be widely known, that is, sufficiently so to permit one to assume a rational agreement or convention as to its signification, then the ideal components of the meaning of the name are projected, as it were, or translated in terms of objective properties which are henceforth regarded as the connotation of the name. In such cases therefore the meaning which first enabled the name to stand for the thing is now objectified into properties which the name connotes along with its

extension. Now since all terms have meaning, which is after all their most important aspect, and since convention is of a more or less relative character, the conceptualist logician is naturally reluctant to sanction the validity of an absolute demarcation between connotative and non-connotative names. The materialist logician, on the other hand, is not concerned about ideal meaning as such, while the distinction between names which have connotation and those that have not seems too obvious to be ignored. As regards their main contentions both disputants are right. The conceptualist logician is right in maintaining that all terms have meaning, which is not the same as the subjective intension which materialist logicians generally allow; while materialist logicians are right in maintaining the distinction between connotative and non-connotative terms on the ground that connotation is not the same as meaning, be their difference ever so slight or unimportant. A closer examination of proper and abstract names with reference to their claims to meaning may help to elucidate the relative difference between connotative and other names. Our immediate object is only to show that all names, even proper and abstract names, which are the only names in dispute, have meaning. Incidentally, however, it will be shown that the distinction between connotation and meaning, and therefore also between connotative and non-connotative names, is only one of degree, not of kind. Still the distinction need not be ignored on that account.



## § 7. PROPER NAMES.

In the case of a general term the difference between the subjective or empirical idea and the meaning is perfectly clear. Our representation of any individual member of the class denoted by such a name is undoubtedly different from the generic idea which is not intended to represent any individual as such. But it is usually conceded now that there is a closely analogous difference between the ideas we have at different times of one and the same object or person. The familiar comparison with blended or composite photographs is no more irrelevant in the case of so-called singular concepts than in the case of class concepts. For our ideas of one and the same object vary with different people and even with the same person on different occasions. Here too, therefore, the common may be distinguished from the varying elements, the universal from the particular, the meaning from the subjective intension. If so may we not legitimately infer that proper names whose function it is to denote such individual objects have meaning as well as subjective intension? Take, for example, "St John's, Cambridge." Every member of the college, let alone others, has a different idea of it, and a different idea on different occasions. Nevertheless when we speak of St John's the term has but one meaning for all of us. The same is true of other proper names like Hamlet, Lear, Napoleon, etc. Different critics have different views about them, and their views may change from time to time, and yet, for all the differences in points of detail,

these proper names retain a common meaning for all of them<sup>1</sup>.

V The point just emphasized has, indeed, not been altogether ignored in common logic. Materialist logicians do in fact admit a class of connotative singular terms. But their grounds for this concession are not those urged here. It is due rather to the fact that such singular connotative names are usually formed by a combination of several general terms, which are universally recognised to be connotative. Such being the case it would naturally seem inconsistent to call a combination of connotative names non-connotative. As regards their meaning, however, such singular connotative terms are really general. "Nothing in the world that you can do to ideas," says Mr Bradley<sup>2</sup>, "no possible torture will get out of them an assertion that is not universal." It is only on account of the totally disconnected fact that objectively there happens to be but one thing denoted by a term that such a connotative term can be styled singular. Its singularity cannot lie in its meaning<sup>3</sup>. We are apt to overlook this truth because the information conveyed by such a term is usually supplemented unconsciously by other

<sup>1</sup> Cf. Bosanquet, *Essentials of Logic*, pp. 74 ff.

<sup>2</sup> *Principles of Logic*, p. 62.

<sup>3</sup> Sigwart seems inclined to make a concession. He says, "Only concepts whose characteristics involve the uniqueness of the corresponding object can be called Singular; in this sense the centre of the material universe is a singular concept" (*Logic*, I. p. 271). Dr Bosanquet, however, rightly remarks that "the meaning is still distinguishable from the particular instance, and is theoretically capable of having further particulars subsumed under it...there may be two such points in succession—the centre may shift" (*Logic*, I. p. 47, note).



and independent knowledge. Considered by themselves, however, and without furtive additions, such terms remain general in meaning and applicability, though not in actual application. Even such single-worded connotative names as God and Universe cannot in all strictness be called singular from this point of view. In thought at least one can always conceive a universe other than the present.

Connotation, then, does not seem capable of being entirely divorced from a certain element of generality, although the recognition of a class of singular connotative terms shows that materialist logicians do not lay stress on the individuality or multiplicity of the extension. It is the conventional character of connotation on which they put the greatest emphasis. Now in the case of common names we have, as it were, concrete evidence of their conventional meaning, namely, in the Dictionary. Very different is it with proper names. If there is any convention relating to them at all it would seem to be to the effect that they should be regarded as meaningless. And yet it may be maintained that the difference between proper and connotative names, though certainly not insignificant, is only one of degree, if sufficiently analysed.

One striking difference between the two classes of names is this. Generally speaking, connotative names are applied to things because we observe that these possess certain properties which the name connotes. With proper names the order is reversed. They are first associated with certain objects and then acquire a meaning according to the character or properties of what they denote. This is interesting and important

no doubt. But is it an ultimate difference? Though the original assignment of a proper name may have been arbitrary, that is no reason why it should not acquire conventional meaning through its very association with a certain person or object. "Originally imposed as an *arbitrary* mark, that very process, which makes it a sign and associates it firmly with the thing it signifies, must associate with it also some qualities and characters of that which it stands for. If it did not to some extent get to *mean* the thing, it never could get to *stand* for it at all<sup>1</sup>." In the second place, historically general names must have acquired their meaning in the same way as proper names. For there is nothing in any name as such that should give it the signification now associated with it, and the first application of any name, as compared with its present meaning, must have been more or less arbitrary<sup>2</sup>. "It might be said," so thinks Dr Bosanquet<sup>3</sup>, "that language must have begun with proper names for everything, and advanced to general names." And this seems to apply, in great measure, to the individual as well as to the race. Sigwart is of opinion that "in the earlier stages of the thought of the individual the meaning of every word is connected with a particular intuition, and there is here no difference whatever between particular and general ideas<sup>4</sup>." What helps to accentuate the difference

<sup>1</sup> Bradley, *Principles of Logic*, p. 60.

<sup>2</sup> Cf. Abelard (*Dialectica*, ed. Cousin, p. 487), *Neque enim vox aliqua naturaliter rei significatae inest, sed secundum hominum impositionem. Vocis enim impositionem summus artifex nobis commisit, rerum autem naturam propriae suae dispositioni reservavit.* (Allusion to Gen. ii. 19.)

<sup>3</sup> *Logic*, I. p. 52.

<sup>4</sup> *Logic*, I. p. 44.

between proper and common names is that a common name denotes mostly a large number of objects, whereas a proper name usually denotes but one object. The result is that the former comes to be known more widely than the latter. For generally the fewer things a name denotes, the fewer the people who get to know the things and the name. Proper names will consequently be known to, and have meaning for, far fewer people than common names. But when, for good or for evil, some individual person or object does become widely known, then the corresponding proper name will be scarcely distinguishable from a common name. Another result of the difference in the extensions of the two classes of names is, that in the case of a general term we have repeated opportunities of applying our knowledge of its meaning by bringing under it previously unknown members of the class of objects which it denotes, and thus the meaning of the term comes to the fore; from the nature of the case, however, this cannot be done with proper names, whose denotation consequently attracts more attention than their meaning<sup>1</sup>.

And now to return to the question of lexicographical convention. Here also the difference, though very considerable, is still only one of degree. The signification of common names can almost always be discovered by consulting a good Dictionary, true. But the signification of a proper name can often be as

<sup>1</sup> Cf. Bosanquet (*Logic*, I. p. 53), "Thus the distinction between a proper name and a significant name (whether singular, as God, or general, as 'man'), is that in the use of a proper name signification is a means to identification; in the use of a singular or general name signification is predicated for its own sake."

readily found by consulting an Encyclopedia, or a Biographical or Geographical Dictionary, according to circumstances. The most widely known proper names are, in fact, frequently included in the bigger Dictionaries. The fact that one and the same proper name is frequently conferred on many different people or objects certainly makes these names exceedingly ambiguous. Even common names, however, are not always unequivocal. In both cases alike we must approach the Dictionary or Encyclopedia armed with sufficient knowledge to avoid the pitfalls of ambiguity. Again, the mere numerical proportion between classes of objects and individual objects makes the compilation of an exhaustive Dictionary of individual names with all their innumerable significations an absolutely hopeless task. All such differences, however, are only relative, not absolute.

The differences between proper and connotative names are only relative from the conceptualist standpoint. But they assume larger proportions in the eyes of the materialist logician, and the distinction between connotative and non-connotative terms rests in large measure on these relative differences. While, therefore, connotation may be consistently denied to proper names, meaning cannot. And meaning is more than is allowed in subjective intension—it is the soul of connotation.

### § 8. ABSTRACT NAMES.

Mill<sup>1</sup> has made us familiar with the fact that some abstract names, such as Colour, for example, “are

<sup>1</sup> *Logic*, Book I. ch. II. § 4.

certainly general." From this it would necessarily follow that some abstract names have meaning, for only meaning makes generality possible. And, though on different grounds, Mill actually maintains that "even abstract names...may in some instances be justly considered as connotative<sup>1</sup>." But names that have connotation must, of course, have meaning. The propriety of the distinction between thing and attribute, having regard to Mill's sensationalist philosophy; the exactness of the demarcation between concrete and abstract names on the basis of such a distinction; and the question whether such general abstract terms should not more correctly be called concrete names;—all this does not concern us here. In any case these names are connotative and therefore significant.

Singular Abstract Names, on the other hand, are generally considered to be non-connotative. But they have meaning for all that. It would be strange indeed if a name which is not a proper name, which is universally understood to denote a definite property, and the signification of which is given in every dictionary, could still be regarded as having no precise, or conventional meaning. In reality the signification of such names is so obvious that advocates are not wanting who urge that it would be far better to deny them denotation rather than connotation, or at least to regard their connotation and denotation as coinciding. After defining a non-connotative term as "one which signifies a subject only or an attribute only" Mill is of course perfectly justified in classing singular abstract names as non-connotative. For, *ex hypothesi*, they signify a

<sup>1</sup> *Logic*, Book I. ch. II. § 5.



single attribute only and have nothing else to connote. The procedure may seem arbitrary and unnatural, but it is consistent. At all events this does not yet, by a long way, prove that such terms have no meaning. Perhaps it is just in the case of singular abstract names that the difference between connotation and meaning is most obvious. Let us take one of Mill's instances, say, Squareness. Now squareness, whether denoted or connoted, is, of course, the objective, spatial attribute. Logicians usually, and rightly, speak of the denotation of Squareness, or the connotation of Square, as the attribute squareness. But meaning cannot be a geometrical attribute. Meaning may have reference to, may represent geometrical attributes, but cannot itself be a geometrical attribute. While therefore connotation and denotation are rival claimants for the one attribute which a singular abstract term signifies, there is no such rivalry between meaning and denotation. The denotation is the attribute while the meaning is its representative logical idea. And even singular abstract names have both these aspects, *i.e.*, meaning as well as extension.

We conclude, then, that all Names without exception have meaning.

### § 9. OBJECTIVITY.

"A name," says Dr Bosanquet<sup>1</sup>, "always *refers* to something." And this reference to something is what is here meant by the objectivity of a name. We have already examined three features common to all terms,

<sup>1</sup> *Logic*, I. p. 18.

namely, the *suppositio materialis*, subjective intension and meaning. Ordinarily, however, when we use a term as the subject of a proposition our predication does not refer to any of these aspects of the subject-term at all. These three aspects of a name are only means to an end; and that end is reference to something else. This is the truth Mill had in view when he wrote that names are the "names of things themselves, and not merely of our ideas of things<sup>1</sup>," and, again, that "the fact is one thing, the concept of it is another, and the judgment is concerning the fact, not the concept<sup>2</sup>." But this does not yet represent with sufficient accuracy the true character of objectivity. Mill does not discriminate clearly between the mere reference to something, and the real existence of that something. The first of these alone is to be understood by objectivity. The difference between the two has, as we shall soon see, been frequently pointed out by various writers. On the other hand, the objectivity of a name is mostly fused with its meaning. It seems preferable to adopt the suggestion of Bolzano<sup>3</sup> and keep these aspects apart. The meaning is representative of something else. And by objectivity is meant this reference to something else. But it is only when this something else has a place, and is what its meaning represents it to be in the world of reality, that the name can be said to denote something real or existent. Mere objectivity does not

<sup>1</sup> *Logic*, Book I. ch. II. § 1.

<sup>2</sup> *Examination of Sir W. Hamilton's Phil.*, ch. XVIII. Cf. Abelard (*Dialectica*, ed. Cousin, p. 240), *Restat itaque ut de solis rebus... propositiones agant.*

<sup>3</sup> *Wissenschaftslehre*, I. § 49, and II. § 137, where he calls it *Gegenständlichkeit*.

imply existence, though when a name does denote something real the object of reference and the real thing are separable by abstraction only. Mr Bradley seems to be thinking of mere objectivity (though apparently not yet divorced from meaning) when he remarks that "the idea is the fact with its existence disregarded<sup>1</sup>." The difference between objectivity and reality should be noted carefully. We shall revert to it again.

### § 10. HAVE ALL NAMES OBJECTIVITY?

Have all names objectivity? Our answer is, Yes. There are, however, some apparent exceptions which require closer scrutiny. In the case of a term which denotes something actually existing, the contrast between its objectivity and its other aspects is unmistakable. What such a term denotes is clearly different from what it is, different also from its empirical mental equivalent and its meaning. But this is not so obvious in the case of names which are not the names of existing things. Such terms may be divided into three classes, as follows.

(a) Names which, without involving any inherent impossibility, are known or believed to denote nothing real. "Fairy" may serve as an example.

(b) Terms involving a contradiction, so that they cannot possibly denote something existing. "Round square," "parallel lines which meet," are instances of such names.

(c) Expressions like "nothing," "nobody," "non-

<sup>1</sup> *Principles of Logic*, p. 45.



entity," which, as it were, openly disclaim all direct reference to reality.

(a) Now as regards the first of these seeming exceptions, such names clearly have the three other aspects of terms, namely, *suppositio materialis*, subjective intension and meaning. But when we say, *Fairies do not really exist*, which aspect of the subject-term is here involved? Surely the word as such, its empirical mental equivalent and its meaning are as real as they are capable of being. They could not be more real even if fairies did actually exist. The proposition can, therefore, only refer to the objectivity of the term, that is, the mere objective reference which by itself implies no assumption whatever as regards actual existence. And it is actual existence in the order of time and space that the proposition denies. Such terms, then, have objectivity.

(b) Passing to the names in the second class of supposed exceptions, here too the first three aspects of a term obtain. But it is not to any one of these that we allude when we utter the judgment, *A round square is an impossibility*. For the expression "round square" is real enough. And the term has its mental equivalents and meaning, even though these are characterised by a conflict between component ideas which follow one another in rapid succession but will not fuse. If the term had no equivalent empirical ideas, and no recognised meaning, we could not use it as the subject of a proposition. What is judged impossible is the *thing* to which the term has reference. Mere objectivity, or reference to something, belongs to such terms also.

(c) Coming, lastly, to such expressions as "nothing," "nobody," we observe that taken literally they can have no objectivity. But even they present no insuperable difficulties. (i) In the first place, such expressions when really used categorematically are, like most "infinite" terms, which in that case they clearly resemble, meant not in an absolute but only in a relative or restricted sense. They are used elliptically for "something or somebody of no importance." That is practically the signification of such expressions as "a mere nothing," "a nobody" or "a non-entity." In that case they have a positive extension, though the term itself does not positively indicate the character of that extension. According to Schopenhauer<sup>1</sup>, "nothing" is mostly used as *nihil privativum* and not as *nihil negativum*, that is, in a relative or restricted and not in an absolute sense; it denotes a subdivision in the dichotomy of a definite class. Whenever that is the real signification of "nothing" and its kindred expressions, they certainly have objectivity. (ii) In the second place, the meaning of propositions which contain such expressions can always be restated in positive terms, which have objectivity, without detriment, at times even with advantage, to the clearness of their logical import. Thus, for example, "nothing is perfect" and "nobody is infallible" may be changed, by a kind of inversion, into "no existing thing is perfect" and "no man is infallible," respectively, and "S is nobody (or nothing)" may be changed, by a kind of obversion, into "S is not a person (or thing) of importance." Such restatements make it clear that "nothing" and

<sup>1</sup> *Die Welt als Wille*, § 71.

"nobody," beyond helping, together with the context, to suggest the real terms, whose places they occupy in the propositions in which they occur, are little more than the equivalents of "no," and therefore syncategorematic. In fact Twardowski<sup>1</sup> unhesitatingly calls "nothing" a syncategorematic word. And, excepting some of the uses just referred to under (i), all these expressions may be treated as syncategorematic. Now in so far as they are categorematic they have also objectivity, as we have just seen, while in so far as they are syncategorematic they cannot be regarded as exceptions to the rule that all terms have objectivity.

We conclude, accordingly, that all terms have objectivity.

## § 11. THE EXISTENTIAL PROBLEM AND THE SEVERAL ASPECTS OF NAMES.

We are now in a position to turn to the final purpose of this chapter and determine precisely with which aspect of terms the problem of the existential import of categorical propositions is immediately concerned. The result of our investigation so far is, that all terms without exception have these four aspects in common, namely, (1) *suppositio materialis*, (2) subjective intension, (3) meaning, (4) and objectivity. The existential problem cannot, therefore, turn on any one of these aspects as such. For if the question were simply whether every term used in judgment must have one or all of these aspects we should unhesitatingly answer

<sup>1</sup> *Inhalt und Gegenstand der Vorstellungen*, pp. 20 f.

it in the affirmative, and the problem would be solved. But that is not so.

When we considered the objectivity of terms, there was an important distinction which we were compelled to recognise: the distinction, namely, between mere objectivity and existence or reality. Objectivity, it was remarked, is characteristic of all terms; but not all terms denote real or existing things. "A name," says Aristotle<sup>1</sup>, "may be given also to the non-existent." And the existential problem must be concerned with existence or reality as distinguished from mere objectivity. In some form or other the distinction is to be met with throughout the history of Logic. The Schoolmen habitually distinguished between *esse objective, intentionale, vel prout cognitum* and *esse subjective, formale, reale, vel prout in seipso*<sup>2</sup>. In modern times we find Descartes<sup>3</sup> repeatedly differentiating between ideas which are "materially true" and such as are "materially false," according as they do or do not represent existing things. Locke, following Descartes, similarly discriminates between "true" and "false" ideas. "Thus," Locke tells us<sup>4</sup>, "the two ideas of a man and a centaur, supposed to be the ideas of real substances, are the one true and the other false; the one having a conformity to what has really existed, the other not." In our own days we have Lotze's distinction between *Ding* (or *Gegenstand*) and *Sache*, between *Objectivität* and *Wirklichkeit*<sup>5</sup>, and that of Dr Keynes between extension and

<sup>1</sup> *Anal. Post.* II. vii.

<sup>2</sup> See, e.g., Hamilton's edition of Reid, pp. 806 f. note.

<sup>3</sup> *Meditation* III.

<sup>4</sup> *Essay*, Book II. ch. XXXII, § 5.

<sup>5</sup> *Metaphysic*, p. 17 note.

denotation<sup>1</sup>, besides the above-mentioned distinction which Bolzano first made between *Gegenständlichkeit* and *Wirklichkeit*, and the similar distinction which present-day German writers draw between *Sein* and *Dasein*. Dr Venn has gone so far as to suggest that "things denoted by single terms generally have an existence past all dispute or doubt<sup>2</sup>." But this criterion is by no means reliable, as Dr Venn himself admits.

A more positive characterisation of Existence and Reality, and a more precise determination of what is implied by saying that a term denotes something real or existing, or that its object of reference has a place in the real world, will be attempted in the next chapter. But there is one other point which must be cleared up before we leave the subject of names and their several aspects.

The four aspects of terms are all of them real and important as such. Nevertheless it may be observed that it is the fourth aspect, objectivity, to which the others are subordinated as means to end. It is in that aspect that names are most commonly and naturally used. But not universally. Terms are occasionally used in one of their other three aspects. And, since the several aspects are logically distinct, such indiscriminate use of terms in any one of their different aspects leads to ambiguity and confusion sometimes. It is to a confusion of this character that the existential problem, and some of the solutions which have been suggested for it, seem partly due. The ambiguity alluded to can, like all cases of ambiguity, be readily obviated by a more explicit use of language. The demands of such

<sup>1</sup> *Formal Logic*, p. 31.

<sup>2</sup> *Empirical Logic*, p. 258.



logical precision can be easily satisfied if we uniformly employ terms in their aspect of objectivity only. Such exactness entails no difficulties whatever. It does not by any means imply that the other aspects of terms are being ignored or sacrificed. What is required is simply this, that when a name is used let it be understood to signify its object of reference, and if anybody desires to refer to one of the other aspects of that term he can do so certainly, but let him do so explicitly by constructing another (many-worded) term which shall have the required aspect of the original term for its object of reference. Thus, for instance, instead of using the term Heaven in any of its four aspects indifferently let us say, (1) "the word heaven"; (2) "*A*'s (or *B*'s or *C*'s) idea of heaven"; (3) "the meaning of the word heaven" for (1) the *suppositio materialis* of the term; (2) its subjective intension or equivalent empirical ideas; (3) and meaning, respectively;—reserving the expression "heaven," by itself, for the object of reference exclusively. There is nothing novel in this, it is the most common usage. But the usage is not universal. There are many exceptions. The exceptions are mostly quite harmless, because the context shows clearly in which aspect the term is employed. At other times, however, the ambiguity due to such elliptical use of names is misleading.

## CHAPTER II.

### EXISTENCE OR REALITY.

#### § 1. PURE BEING OR BARE EXISTENCE.

THE words Real and Existent are general terms. They are, in fact, terms of the most comprehensive generality. In their widest sense they include everything. For whatever a thing may be, it is something. The consequence of this all-comprehensive extension is that it becomes almost impossible to assign to these terms any definite, positive content. "Being," "Existence" and "Reality," in the sense of bare existence, or pure being, are, according to Schopenhauer<sup>1</sup> and others, little more than words. However paradoxical it may appear yet the merely existent, or pure being, is non-existent. For only the individual exists. And "existence" becomes intelligible only when interpreted as "the existence of a particular object<sup>2</sup>." The notion of Being, Existence, or Reality, is indeed legitimate enough, but just because it is sufficiently comprehensive for the subsumption of everything else we cannot step outside it in order to explain it. The common feature which Thought can abstract from all entities seems scarcely capable of anything beyond verbal indication.

<sup>1</sup> *Die Welt als Wille u. Vorstellung*, Supplement to Book I. ch. VI.

<sup>2</sup> Cf. Schuppe, *Erkenntnistheoretische Logik*, p. 49.

## § 2. CHARACTER AND CRITERION OF REALITY.

But now, granting that any attempt to determine the character of "pure being" must be futile and that any question about existence must have reference to some special form of existence, it may perhaps still be possible to enumerate the various kinds of existents and then specify, with some precision, the several corresponding forms of reality. Happily the proposed ontological inquiry is quite unnecessary for the purposes of this investigation. For, in the first place, what we want to know is whether, in expressing a judgment, the speaker or writer necessarily means to imply that the terms of the proposition denote real things. With a view to this it will be quite sufficient if we indicate some generally recognised criterion of reality for each of the several kinds of real things. That will serve us quite as well as a knowledge of the ontological character of reality would, even if the latter were practicable. After all it is not the metaphysical determination of reality that concerns us here; we are only interested to know the conditions under which it is commonly admitted that certain names or ideas represent real objects. And to this end—if one may extend the application of these familiar expressions—the *ratio cognoscendi* of the real will do just as well as the *ratio essendi*. In the second place, it is only by taking the *ratio cognoscendi* for our guidance that we can hope to obtain any generally recognised formula. The views relating to the ultimate constitution of reality are obviously too hopelessly conflicting for such general recognition. Lastly, judgment is not the monopoly of



the metaphysician. And our investigation relates to all judgments, no matter whose they are. But to read any kind of ontological theories into the everyday judgments of ordinary men would certainly be far-fetched. Let us see, then, what the conditions are under which we should acknowledge the reality of things.

### § 3. CRITERION OF REALITY.

Perhaps the best way of arriving at the *ratio cognoscendi* of the real is by examining what we unhesitatingly regard as real. Thus it is quite clear, for example, that, excepting in moments of wilful scepticism, each person regards or accepts himself, all his mental experiences, as such, and all the material objects, which he perceives directly, as real. It is, in fact, so natural to do so that we never think of affirming the reality of these, except when challenged by the sceptic. I cannot think of myself otherwise than as real. Nor can I normally doubt the reality of my cognitive, affective and conative experiences as such. Nor does anyone normally doubt the existence of his own body, or that of other material bodies and their properties, when these are immediately presented to him. To quote Sigwart, "my being is indistinguishably included in the immediate consciousness of myself," and "immediate sense-perception does for external things what this immediate self-consciousness does for myself<sup>1</sup>."

<sup>1</sup> *Logic*, I. p. 74.

## § 4. PHYSICAL AND PSYCHICAL REALITY.

There is indeed an obvious difference between physical and psychical realities. Whereas in the case of mental experiences as such nobody ever thinks of regarding them as being possibly different from what they seem or are felt to be, in the case of material objects the actual or possible difference between appearance and reality is something that strikes many people if questioned closely. It is comparatively easy, for instance, to elicit from an ordinary man of common sense some such statement as this, that the brown, hard chair which he sees and touches, is, or may be in itself not a brown, hard chair, but only a something possessing properties which under certain conditions produce, in sentient beings, sensations of brown colour, hardness, etc. And once we follow this track we shall get involved in all the difficulties which surround the "permanent possibilities of sensations" and other theories about material reality. But, as already explained, we are not concerned with these. Our interest is centred in the criterion, not in the character of reality. And, as regards material reality, whatever one's views may be about the latter, there can be but little doubt as regards the former. The reality of what is given in direct presentation is recognised by all, by Hume<sup>1</sup> and Berkeley as well as by the man in the street.

As with the extended so with the non-extended also, immediate presentation is an indubitable guarantee

✓<sup>1</sup> *Treatise*, I. ii. 6, "Every object that is presented must necessarily be existent."

of its reality. From this standpoint, accordingly, we can wholly agree with Mr Bradley when he says, "The real is that which is known in presentation or intuitive knowledge. It is what we encounter in feeling or perception<sup>1</sup>."

It cannot, of course, be denied that the occurrence of hallucinations and illusions suggests that even immediate experience may at times mislead, and thus prove to be but a fallible criterion of reality. In defence it may be urged that hallucinations and illusions are due, not to the misleading of immediate perception, but to our misinterpretation of it, and that we correct these misinterpretations only by reference to other perceptions. Immediate experience consequently remains our highest or ultimate test of reality. If we desire to convince someone of the existence of something our last recourse is to bring it or him within reach of direct observation, where such a course is practicable.

### § 5. ESSE IS PERCIPI.

The attitude here adopted must not be confused with that enunciated in Berkeley's *esse* is *percipi*, to which it has a certain superficial resemblance. Our conclusion has no bearing on the ultimate character of reality, but only on its mode of recognition. And without committing ourselves to any ontological view as to what *esse* is, we simply conclude that *percipi* and *percipere*, or, more generally, *intellegi* and *intelligere* are each an indubitable criterion or guarantee of *esse*.

<sup>1</sup> *Principles of Logic*, p. 44.

## § 6. INTELECTION AND KNOWLEDGE.

If our experience consisted always of immediate intuitions and perceptions, the question of existence would scarcely have any meaning for us. We should never assert it, because we should never doubt it.

"Concerning that which is immediately present," says Sigwart, "I cannot ask whether it exists; certainty of its existence is given by the way in which it is intuited<sup>1</sup>."

But our experience is not always presentative, or, at all events, not always presentative only; it is also representative. Thought has two aspects: it is what it is, but it is also symbolical of something other than itself. It is *Intellection*, and may be *Knowledge*<sup>2</sup>. As intellection it is immediately present to the thinker and carries with it the conviction of its own reality; as knowledge it has objectivity, or reference to something other than itself. And it is just here that the existential problem arises. For the question naturally forces itself upon us whether that which thought represents (not what it is) has or has not reality.

We may also approach the question from another side. I can be conscious of one and the same thing in two different ways, namely, directly in presentation, or indirectly in representation. For example, yesterday I had some roses. I then saw, touched and smelled

<sup>1</sup> *Logic*, I. p. 75.

<sup>2</sup> The first to express the antithesis in this way was the late Prof. Croom Robertson (*Philosophical Remains*, p. 266). The antithesis itself is, of course, very old. It is assumed in all forms of scepticism and criticism, and has been brought out more or less explicitly by Descartes and Kant, among others.

them. I cannot touch, smell, or see them now. But I have an idea of them, I recall them in memory. Now so long as I had a direct perception of the roses I had absolutely no doubt of their existence. But now that I cannot perceive them and only think of them, I wonder, and rightly wonder, whether they still exist. Observe I do not doubt the reality of my idea of those roses as such. While the psychosis lasts I feel as convinced of the reality of my idea of the roses as I was yesterday convinced of the existence of the roses themselves when I touched and smelled them. What I do doubt is whether the object of reference of the idea still exists.

My decision as to whether something of which I am conscious representatively does or does not exist may be the result of more or less complex reasoning. Ultimately, however, the final inference must rest on some presentative experience. The quickest and surest proof of the reality of such an object of reference would be to replace representation by presentation, when that is possible. And in one way or another when we think of anything as real we mostly think of it as capable of thus being immediately perceived or intuited. Not that this is necessarily all we mean by the reality of a thing; but it is what most people would agree to as a mark of reality. In this sense, though only in this sense, it may be said that the real is the perceptible or intuitable, or, more precisely, the perceptible or intuitable is real.

§ 7. THE CRITERION OF REALITY IS VARIABLE, AS REGARDS BOTH THE FORM AND THE SUBJECT OF IMMEDIATE APPREHENSION.

"Perceptible" and "intuitable" are, however, general terms. And properties connoted by general terms, it must be remembered, always assume some special or particular shape in the individual objects which the general term denotes. All real things are perceptible or intuitable; but not all in the same way. Broadly speaking, my experience acquaints me with four kinds of real things. (1) First, I am conscious of my own self as a being who thinks, feels and wills. (2) Secondly, I am conscious of cognitions, feelings and conations, as real processes in time. (3) Thirdly, I perceive my own body and other physical objects which occupy time and space, have sensuous properties, and undergo perceptible changes. (4) Lastly, when reflecting on some of the preceding kinds of existents I cannot but think of them as standing in certain real relations, temporal, spatial, numerical and causal. Now, whenever we have a "living experience" of any of these several kinds of things, we never doubt their reality. But this "living experience," perception or intuition, obviously varies with each of these kinds of things. And, naturally enough, we generally associate the differences in the modes of our perception or cognition of the things with differences in the things themselves. So much so that, excepting the expression "reality," we are apt to find it rather harsh when one and the same term is used to denominate the different forms of reality peculiar to



the different kinds of things, or even when the word "thing" is applied to all these different kinds of entities. Generally we prefer to speak of the *existence* only of *things*, in the narrower sense, of the *occurrence* of *processes* and *events*, and of the *validity* of *truths* and so on<sup>1</sup>.

From the differences here barely indicated it follows inevitably that the "living experience," or mode of immediate apprehension, associated with the reality of the object of reference of any representing idea, must be assumed to vary with the class of things which that idea represents, or on the model of which the idea has been formed. For example, if I think of some other *ego* than mine and judge it to be real, then I do not imply that that *ego* is conscious of itself in the same way as it is conscious of its mental processes or sensuous perceptions<sup>2</sup>; much less do I imply that anyone but the *ego* in question can have an immediate consciousness of it. All I imply is that the *ego* represented has a consciousness and a self-consciousness analogous to my own, and these are outside the immediate consciousness of all but the individual *ego* to which they belong.

<sup>1</sup> Cf. Lotze, *Logic*, § 316. With these distinctions in view it is not altogether correct to speak of the 'existential' import of propositions. It would be more correct to speak of the import of reality in propositions, since events, processes and relations may also form the subjects of propositions, and the existential problem applies to all categorical predication. But there is no need to change the now familiar name, provided the word existential is used in the wider sense, namely, as an adjective corresponding to reality. "Real import" would suggest something else.

<sup>2</sup> This important distinction was overlooked by Hume when he expected to 'catch' his Self in the same way as he could "stumble on some particular perception or other, of heat or cold, light or shade, love or hatred, pain or pleasure." (*Treatise*, i. iv. 6.)



Similarly by asserting the reality of any empirical idea, or some particular feeling or volition, it cannot be implied that these are perceptible directly to the consciousness of anyone but the person referred to. On the other hand, to assert the reality of the object of reference of a representing idea which includes, among its component ideas, ideas of material attributes, then something more is implied than the existence of the representing idea in some mind or other; it is implied, namely, that, under certain obvious conditions of time and space, any normal human being can have a direct perception of it.

Our belief, then, in the existence of the object of reference of an idea or term implies our belief that there is something which either actually is or, under certain conditions, is capable of yielding such a living experience as is implied in the representative idea, or in the meaning of the term. The nature of this living experience, as just explained, is different for the several different kinds of objects of reference. It should be remarked also, as indeed has already been partly indicated, that the subject of such living experience need not always be the person judging, nor indeed any human being. Thus, for example, when I judge another's mental experiences to be real there is clearly no implication that I can have a direct consciousness of them. And, again, if I imagine a purely spiritual being and assert its existence, then what I imply is that this being has a living consciousness of its own, but not necessarily that it can yield a living consciousness of itself to human beings. At most I only imply that if there are any beings so constituted as to be capable of

apprehending such a purely spiritual existent, then they will, under certain conditions, obtain an immediate apprehension of it. Similarly, to believe in the reality of the Absolute, or in the existence of a *Ding an sich*, obviously cannot imply that these are as such directly presentable to any person. This distinction between "*objectiva* capable of presentation"<sup>1</sup> to us, and such as are inherently incapable of such presentation should not be overlooked; though it need hardly be mentioned that to show that certain objects of reference are not subject to the ordinary tests of reality constitutes by itself no proof of their reality.

§ 8. IS THE CONTENT OF AN IDEA AFFECTED BY THE THOUGHT OF THE EXISTENCE OR NON-EXISTENCE OF ITS OBJECT OF REFERENCE?

In the case of *objectiva* capable of presentation there is an undeniable and ultimate difference between our presentative and our representative consciousness of them. This difference, however, only affects our mode of consciousness, not its content. For example, the consciousness which I have when I see, touch and smell a rose is very different from my consciousness when I only imagine one or recall it in memory. But if my representing idea of the rose is correct, as I mean it to be, then every component element in the content of my perception of the rose must find a place in the content of my representative consciousness, however much the two experiences may differ in tone. There need,

<sup>1</sup> The expression is suggested by the title of Dr Pickler's book.

therefore, be no material difference in the mental equivalent of an object whether it is directly presented or only represented in imagination. From this it follows further that there can be no difference in the content of a representing idea whether its object of reference does or does not exist. For when I have an idea and regard its object of reference as real, what I mean is that the content of which, at the time, I have only a representative consciousness is also capable of direct presentation. But at that moment I have no such presentative consciousness of it, and the mere possibility of it adds nothing to the content of the idea. When, therefore, an idea has no corresponding, represented reality, that cannot affect its content. For the difference of tone between presentation and representation would be there all the same even if it represented something real, and the thought of the impossibility of a direct presentation of the content cannot take away from it what the thought of such a possibility does not add to the content of the representation as such. Accordingly whether we affirm or deny the reality of its object of reference, the content of the idea remains unaffected. This is what Hume asserted when he wrote that "the belief of the existence joins no new ideas to those which compose the idea of the object. When I think of God, when I think of him as existent, and when I believe him to be existent, my idea of him neither encreases nor diminishes<sup>1</sup>." The same idea underlies the remark of Kant that "the real contains no more than the merely possible. A hundred real

<sup>1</sup> *Treatise*, I. iii. 7.

dollars contain absolutely nothing more than a hundred possible dollars<sup>1</sup>." Of course a hundred real dollars are much more than a hundred merely possible dollars. Kant himself would have preferred the former to the latter. For merely possible dollars are nothing at all<sup>2</sup>. But, and this is what Kant meant, the content of the ideal representation of a hundred dollars remains absolutely unaffected whether we think of them as real or not.

As regards *objectiva* not capable of presentation, so far as we are concerned, it is more obvious still that there can be no difference in the content of our ideas of them whether we judge them to be real, or not. In their case we cannot even speak with certainty of any difference between presentation and representation since, *ex hypothesi*, we can have no perception of them.

### § 9. ARE ALL IDEAS CONCEIVED AS REPRESENTING REAL THINGS ?

The fact that our ideas are not affected by the reality or unreality of their objects of reference has called forth two diametrically opposite views. On the one hand, Kant maintains that since existence can not be represented and can, therefore, form no part of the content of ideas, no ideas are at first regarded as ideas of real things. And this is also the view of Sigwart. On the other hand, Bergmann holds that all our ideas are in the first instance thought of as representing

<sup>1</sup> *Kritik d. reinen Vernunft*, ed. Kehrbach, p. 473.

<sup>2</sup> Cf. Descartes, *Med.* III. "A being which is only potentially existent...is nothing at all."

existents. "We refer," he says, "all the images of our imagination not to objects in a world of mere phantoms, but to the objects of the real world. It is only subsequently that thought, finding such a reference inadmissible, sets up a world of phantoms in opposition to the real world<sup>1</sup>." Bergmann's view finds support in the writings of Spinoza<sup>2</sup> and Hume<sup>3</sup>, both of whom maintained that all our ideas are first conceived as though they represented real things. Among recent writers Mr Bradley and Prof. W. James have adopted this view. "To think of a chimera," writes Mr Bradley<sup>4</sup>, "is to think of it as real, but not to judge it even possible."

On the whole the difference between these contending views is, for our purposes, not so important as it may seem at first sight. For Bergmann readily admits that we have ideas which do not, and are not even supposed to represent anything real. So that to have an idea or use a name does not yet imply that we believe it to represent something existing. We should therefore have to determine on other grounds whether the use of a term in any particular context carries with it the belief in the existence of the object named. Still there is a difference between these rival views. Bergmann's view seems to imply that the subjects and predicates of ordinary judgments should be assumed to have

<sup>1</sup> *Grundzüge der Lehre vom Urtheil*, p. 41 f.; cf. Jerusalem, *Die Urtheilsfunction*, p. 210 f.

<sup>2</sup> *Ethica*, II. 49, Schol.

<sup>3</sup> *Treatise*, I. ii. 6: "There is no impression nor idea of any kind, of which we have any consciousness or memory, that is not conceived as existent."

<sup>4</sup> *Principles of Logic*, p. 4, note.



been intended to represent realities unless we are definitely told the contrary. But Bergmann's view is not altogether sound. We can and sometimes do entertain whole trains of ideas which we fully understand without concerning ourselves about the reality of what they represent. All our ideas have objectivity, of course, and are usually taken in that aspect. But that is a different thing altogether. That ideas are always treated as ideas of real things may possibly be true of credulous children and primitive folk, but not of people who read fiction as such.

§ 10. SOME CONFUSIONS AS TO THE REAL SIGNIFICANCE OF RECOGNISING SEVERAL FORMS OF REALITY, AND THEIR BEARING ON THE EXISTENTIAL PROBLEM.

As regards our main problem, there is one important distinction which we must carefully note, and for the clearness of which, it is hoped, the preceding remarks may have prepared the way. The distinction is one which seems to have been frequently overlooked from the earliest period in the history of philosophy till the present day. And the problem of the existential import of predication is largely involved in the consequent confusion. It is this. There are different forms of existence, and different things have different forms of existence. But any one thing can only exist in one of these ways: if it is to be considered real at all, it must exist in that form which is implied in its representative idea.

We have seen above (§ 7) how different kinds of

things yield different kinds of "living experiences," which we regard as the test of their reality. Thus, for example, our immediate consciousness of our mental processes as such is different from our immediate perception of physical objects. But though these living experiences are all of them accepted as guarantees of reality, yet each kind of immediate apprehension can only warrant some one kind of reality. For instance, the psychical process which would carry with it the conviction of its own reality as an idea, would be no evidence for the existence of a material thing; nor would immediate sense perception of a material object, though warranting the reality of this and of the perception, warrant also the existence of a clear representative image of that thing. The mental and the material have clearly different forms and, therefore, different tests of reality.

The distinction between the physical and the psychical was not always clearly grasped by the ancients, at least it was often obscured by the inevitable application of material terminology to mental processes. The ideal representation of a material object was somehow not altogether separated from that material object, but regarded as, in some sense, forming a part of it, sometimes, indeed, as forming the more important or more permanent part of it. Hence the reality of the mental equivalent of a material object was also, in some measure, treated as the reality of the object itself. When, therefore, the different forms of reality, characteristic severally of the different kinds of things, came to be treated as so many grades of reality, the reality of the mental equivalent or representative idea of a



material thing, instead of being treated as a special kind of existent quite different from the material thing itself, came to be regarded simply as a grade of reality of that thing. From that standpoint one and the same thing could to that extent be said to have several different forms of existence. The synthesis of Platonic idealism with the Pythagorean doctrine of numbers was, in the first instance, chiefly responsible for this result, which was further elaborated by the medieval Realists. The existential terminology of the Scholastics was highly complex—*esse in re* (or *esse subjective vel reale*), *esse in intellectu* (or *esse objective*), *esse in posse*, etc. Some of it was still used by Descartes and Spinoza; while the underlying conceptions and confusion still haunt even contemporary writers on Logic and Psychology.

The truth underlying these elaborate doctrines of reality is not far to seek, and has already been indicated. It is the truth, namely, that there are different forms of reality, or, more precisely, different kinds of existing things. The error consists in overlooking the fact that these different forms of reality are not simply different grades or degrees of a common reality, and, therefore, not liable to transition from the one to the other, but are restricted each to one class of things. At bottom the whole elaboration of manifold degrees of reality is largely due to a confusion of language or an inadequate appreciation of its elliptical use. The ancient and medieval doctrines of degrees of reality, and the modern doctrine of different worlds of reality, as distinguished from the conception of but one real world containing different but mutually exclusive classes

of real things, can be avoided with advantage by an explicit use of terms as advocated above (ch. I. § 11). There is only one world of reality, and whatever is real is in it. What does not exist in the real world does not exist at all. A material object cannot exist as a mental process, nor can a mental process be a material object. To say that a centaur exists *in intellectu* is simply to use the word centaur elliptically instead of "the idea of a centaur." Similarly to assert the existence of a centaur "in the world of mythology," is to use the word centaur instead of "an account of a centaur." The object of reference of a term or idea is capable of only one kind of existence in the one real world. What that kind of existence is, or should be, is implied in the representing idea or name. If it exists it has the properties represented by the component ideas of the representation, or in the connotation of its name. If it has not that implied form of existence, then it does not exist anywhere, whatever else may exist. Existing ideas of a thing, or existing accounts of a thing, all these are as such real enough; but their reality is a very different thing from the reality of the thing itself. If the thing itself is not real, then no real ideas of it, no real descriptions of it can as such make it real. But in that case to speak of it as having *logical* existence, or *empirical* existence in some other than the real world, is simply a mysterious way of asserting the reality not of the thing in question, but of something quite different.

The points just raised are of importance in dealing with various views of the existential problem and we shall revert to them again.

## CHAPTER III.

### THE EXISTENTIAL IMPORT OF CATEGORICAL PREDICATION.

#### § 1. TWO WAYS OF APPROACHING THE PROBLEM.

HAVING determined with sufficient precision what is implied by saying that a term denotes something real, we may now proceed to consider the general question whether all categorical propositions necessarily imply the existence of things corresponding to their terms. To answer this question two modes of procedure suggest themselves.

(1) The first and most obvious method would be to make a simple empirical inquiry into a large number of judgments seriously expressed in everyday life. It might then be readily discovered whether propositions do or do not have existential implication. This method is partly followed by Dr Venn, whose conclusions we shall cite in the next section.

(2) Another mode of procedure suggests itself in the form of an *a priori* inquiry into the logical character or function of propositions, which may also throw some light on their existential implication. This

method may commend itself more especially to those who, holding that logic must not be tied down to popular usage, but should rather dictate a more correct and proper use of the different forms of propositions, may not be convinced by the results of an empirical inquiry. We shall follow out this method at some length in the third and following sections.

## § 2. THE EMPIRICAL METHOD: WHAT DO PEOPLE THINK ON THIS POINT?

“What,” asks Dr Venn, “do ordinary persons think and understand on this point?” And his answer may be briefly summarised as follows.

*The Universal Affirmative.* “Broadly speaking, the statement that All X is Y does imply directly that there are X’s, and consequently indirectly that there are Y’s. If any non-mathematician were told that all rectangular hyperbolas have their asymptotes at right angles to one another, he would assume unhesitatingly that there are such things as rectangular hyperbolas, that they exist in the domain of mathematics. And so with most other of the things about which we have occasion to make affirmative assertions. The main ground for this assumption seems to be the very obvious one that the practical exigencies of life confine most of our discussions to what does exist, rather than to what might, or once did, but does not now; and that here as elsewhere, where one thing is the rule and another the exception the *primâ facie* presumption is in favour of the former. People do not in general talk about what they believe to be non-entities....

This seems to be the rule; but there are some admitted classes of exceptions. For instance, assertions about the *future* do not carry any such positive presumption with them, though the logician would commonly throw them into precisely the same 'All X is Y' type of categorical assertion. 'Those who pass this examination are lucky men' would certainly be tacitly supplemented by the clause, 'if any such there be.' So too, in most circumstances of our ordinary life, wherever we are clearly talking of an ideal. 'Perfectly conscientious men think but little of law and rule,' has its signification without implying that there are any such men to be found."

*The Particular Affirmative and Negative.* "The same assumption seems to rule here, but in a more unqualified manner, owing to the fact that most of the exceptions admitted there could have no place here. An assertion confined to 'some' of a class generally rests upon observation or testimony rather than on reasoning or imagination, and therefore almost necessarily postulates existent data, though the nature of this observation and consequent existence is...a perfectly open question."

*The Universal Negative.* "It seems that we very commonly make the same assumption as before in regard to the subject, but do not feel equally confident as regards the predicate. 'No substance possesses a temperature below  $-280^{\circ}$  centigrade.'...Since only substances are supposed to possess a temperature at all, this negatives the existence of the predicate altogether. The exceptions here seem of much the same kind as in the case of the Affirmative, and perhaps more frequent;



but owing to the general reluctance of men to quit the ground of fact altogether, I presume that where the subject does not exist we should generally find that the predicate does: *e.g.* 'No perfectly wicked character is to be found in fiction.' As an instance of a possibly non-existent subject of a negative proposition, take the following:—'No person condemned for witchcraft in the reign of Queen Anne was executed.'"

"Any account of popular phraseology," Dr Venn continues, "which is thus confined to the accepted four fundamental forms of logical predication is of course very imperfect, but we have no space to enquire as to the import of the other forms. They seem to carry the most various degrees of implication with them. For instance, 'None but X are Y':—No one on hearing this would be surprised if the speaker went on to say 'And I do not believe there are any X's.' But the logician would commonly phrase this statement as either 'All Y are X,' with the consequent implication that there are Y's and X's, or, 'No not-X are Y,' with the consequent implication that there are not-X's and Y's. This does not seem to be quite what the ordinary mind contemplates as implied in such a phrase<sup>1</sup>."

It would seem, then, that, judged empirically, propositions do not always imply the existence of their subjects and predicates. This general result is quite irrefutable. Especially so if we interpret "reality" and "existence" more strictly than Dr Venn does. For then a mere reference to propositions about perfect geometrical figures should suffice to convince the unprejudiced. And such propositions may assume all the

<sup>1</sup> *Symbolic Logic* (2nd ed.), ch. vi. pp. 145—149.



four forms, A, E, I and O, as the following examples may show: "All squares are parallelograms"; "No right-angled triangles are equilateral"; "Some parallelograms are rectangles"; "Some parallelograms are not rectangles."

### § 3. A PRIORI: PROPOSITIONS CLAIM TRUTH.

The second or *a priori* course open to us consists, as already remarked, in examining the claim or function of propositions, and considering whether that claim or function can or cannot be satisfied without assuming the existence of objects denoted by their terms.

Now the function of a proposition is to express a truth. All propositions claim to be true. Every assertion carries with it the implication that its author intended it to convey some truth. Such exceptions as there may appear to be are really exceptions that prove the rule. Deliberate falsehoods, white lies and the like would be quite futile and insipid did we not generally recognise every proposition as an intended truth. We must therefore endeavour to find out what this universal claim to truth involves, and face the ancient enigma, What is Truth?

### § 4. WHAT IS TRUTH?

"Truth" is an ambiguous expression. It is the opposite of both (a) Falsity and (b) Falsehood. A truth in the first sense (i.e. an accurate judgment) may nevertheless be a falsehood (i.e. a lie); and a truth in the second sense (veracity) may nevertheless be a falsity

(inaccuracy). Owing to ignorance or to some misconception a liar may, in spite of his actual intention to deceive, make an assertion which is really true; on the other hand one may speak truthfully and yet make a false, that is, an erroneous, statement. The antithesis Truth—Falsehood is based mainly on moral considerations with which, as such, we are not concerned here. Still, from the standpoint of logic, it is interesting to observe that “Truth” has ultimately the same meaning in both antitheses, namely, as opposed to both “falsehood” and “falsity.” We have a falsehood when a proposition misrepresents the real judgment of its author<sup>1</sup>, and a falsity when it misrepresents the real facts to which the content of the proposition refers. Now judgment too is a fact, and it is usually assumed that, with certain obvious exceptions, the proposition one utters really represents his judgment, otherwise of course all intercourse would be impossible. A falsehood is accordingly, from the standpoint of this implicit assumption, always a falsity as compared with the real judgment which it tacitly professes to express, though not necessarily a falsity as compared with the facts to which it directly refers. On the other hand, a proposition which is a falsity as compared with the facts to which it relates immediately may yet be a truth from the standpoint of the secondary implication, that is, as regards the judgment which it purports to express.

(c) “Truth” may yet be opposed to another kind of inaccuracy. A proposition may be erroneous and yet in a sense be neither a moral falsehood nor an error

<sup>1</sup> Cf. S. Maimon, *Versuch über die Transcendentalphilosophie*, p. 147.

of judgment of the kind just described. It may be due to an incorrect use of language. Someone might form a judgment which is not a falsity in so far as it is a correct conception of the facts, and he may honestly think that the proposition in which he expresses it represents his judgment truthfully and adequately. In spite of all that the statement he actually utters may be false, simply because he has unconsciously or unintentionally used the wrong expression. In this case therefore the error is due to the fact that a term is employed in a sense that does not correspond with its established and generally accepted usage or its conventional meaning. But the meaning of an expression is also a fact of a kind, and it is one of the secondary or auxiliary implications of propositions that they are in harmony with this fact. From this third standpoint too, therefore, the antithesis between truth and its opposite coincides with that of being in harmony with facts or being opposed to them.

The logician as such, it is true, has no special concern with moral considerations of veracity and falsehood, nor is he specially concerned with linguistic improprieties. He assumes that every proposition submitted to him is morally truthful and verbally normal. For him a proposition is true or false according as it does or does not express the facts of the case to which its content refers. Nevertheless it is noteworthy how one and the same idea underlies all three antitheses of truth. Two of these, however, only refer indirectly to any given proposition. Directly they refer to the subsidiary assumptions of all language. These secondary assumptions may be expressed as follows: (i) "The proposition

represents my judgment"; (ii) "The terms of this proposition are used in their normal sense." These are tacitly assumed with all propositions, and constitute, in fact, the convention on which all intercourse is based.

### § 5. TRUTH AND REALITY.

Truth, then, in all its usages would seem to imply a certain relation of compatibility with facts. But what is it exactly that is required to make a statement true? Is a proposition true only when it correctly represents some actual relation between real things? If that were so then since every proposition claims to be true it would have to follow that the utterance of a proposition necessarily implies that the terms it contains (with some obvious exceptions of course) were intended to denote existents. Or is it sufficient that a proposition in order to be true must simply not conflict with facts? Such a condition of mere absence of incompatibility would, on the other hand, seem too lax. We must therefore determine more closely the relation between Truth and Reality.

The first thing to be noted is that a simple fact as such is not a truth, but simply a fact. On the other hand, a truth (or falsity even) is always a fact, though not in the same sense as it is a truth (or a falsity). Truth and falsity imply that a fact of one kind is, as it were, claimed to be also a fact of another kind. Where a thing has no such claim made out for it, there considerations of truth and falsity are totally irrelevant. The roses we see and touch and smell are things, not

truths. But when, on seeing some objects in the distance, we say, "Those are roses," that is, claim those objects to be roses, and afterwards, on closer inspection, actually find that they are roses, then the statement is a truth, though as a statement it is also a fact. Or again, subsequent inspection may convince us that they are not roses, and then the statement is a falsity, though as a statement, even as an erroneous statement, it remains a fact. Now we are not concerned here with propositions as mere verbal statements. We are concerned only with their logical content. And in regard to that content considerations of truth and falsity are both relevant and necessary. For here we have one fact, the subject, claimed to be another fact, the predicate (*S is P*), or claimed not to be a certain other fact (*S is not P*)—the disclaimer, in the latter case, generally resting on some prior positive claim. At all events the proposition will be true if the claim of *S* is valid, false otherwise.

Such a formulation is, however, only crude and tentative. Considering affirmative propositions alone, on which even negative propositions must eventually rest, it may well be asked, How can one thing be, and consequently how can it be claimed to be another fact? It must be itself, or it would not be what it is. And if it is also to be something else then this other thing must somehow coincide with it, else we should simply have two distinct, unrelated things, and the claim would be absurd. We must therefore have not two separate, independent facts but only one fact. And yet we must have two things to make the concept of truth at all applicable, since a single fact is simply a fact and neither



a truth nor a falsity. That two things are indispensable is shown by the structure of the judgment, the only medium of truth and falsity, which always requires both a subject and a predicate. A brief consideration of the nature of the terms essential to judgment may suggest the solution of our difficulty.

## § 6. SUBJECT AND PREDICATE.

Every judgment must have both a subject and a predicate. When, however, we give utterance to our judgments a single term may often represent (though sometimes inadequately from the standpoint of the listener) a complete judgment. That is so with all strictly Impersonal Judgments. The subject of an impersonal judgment consists of some object of intuition or of immediate perception, while the predicate is represented by a concept. When expressed in language the individual intuition or object of perception which formed the subject of the judgment is not represented verbally because language is felt to be too general for it. The logical concept, on the other hand, is naturally represented by its name. As examples we may take the following, which must of course be distinguished from mere exclamations: "lightning," "thunder," "rain," etc. (the so-called Meteorological Impersonals), or "fire," "pain," "toothache," and like expressions<sup>1</sup>. In each of

<sup>1</sup> Drobisch (*Logik*, p. 51) calls such incomplete propositions 'enthymematic' or 'germinating judgments' (*werdende Urtheile*). The second name seems inappropriate because the judgment is complete in the mind (hence 'enthymematic'), though not completely expressed in words. It would be better to call them miniature or interjectional propositions.



these examples the real subject is some object of immediate perception, while the term expressed represents the predicate. The important point to note is that although we may have a fact of immediate perception for the subject of a judgment yet the predicate must be a concept or term. Now it is true that concepts, ideas and terms are also facts. The predicate however is not employed in the sense in which it is a fact, whether mental or verbal, but as a symbol for something else. The predicate, in other words, is not used in its aspect of *suppositio materialis*, or of subjective intension, but in its objectivity. Now in order that an affirmative judgment should be true what is required is, not that one fact, the subject, should be another fact, the predicate, but that the objectivity of the predicate term should have nothing incompatible with the objectivity of the subject term, so that the two might coincide. Where the subject is an object of immediate intuition or sense-perception, there the judgment will be true if the intuited reality can also be legitimately regarded as the realised objectivity of the predicate, so that should one think the predicate while perceiving the subject he would feel compelled to recognise in the latter the realised objectivity of the former. Where both subject and predicate are represented by terms there it is the mere objectivity (not necessarily the realised objectivity) that must be identical, so that should one be thinking of the subject and the predicate he would feel compelled to identify the objectivity of the subject with that of the predicate<sup>1</sup>. *Mutatis mu-*

<sup>1</sup> Cf. Kant (*Logik*, § 17), "Ein Urtheil ist die Vorstellung der Einheit des Bewusstseins verschiedener Vorstellungen, oder die Vorstel-

*tandis* Negative Judgments will be true if the objectivity of the subject need not or does not coincide with that of the predicate. Though, as already remarked, the validity of negative propositions will generally depend on some prior affirmative ones.

### § 7. REALITY AS THE ULTIMATE SUBJECT OF ALL JUDGMENTS.

In the preceding paragraph reference was made to our being compelled to form certain judgments when experiencing some immediate intuition or perception and thinking concepts or ideas. It may now be asked, What is it that compels us? Compulsion of course has no reference here to physical force, or even to mere force of will, or to the influence of the emotions. It simply refers to rational necessity. In those instances in which the subject of a judgment consists of some object of immediate intuition or sense-perception, there it is clearly the intuited reality that forces the judgment on us. This is true of all Perceptive Judgments, that is judgments the subjects of which are directly intuited or perceived. Whether we do (as in the case of Demonstrative Propositions) or do not verbally indicate, in our proposition, the perceived reality (by the use of such expressions as "this," "here," "that rose," etc.) is of no account. In the case of what may be called Conceptual Judgments, that is, judgments in which the subject is

*lung des Verhältnisses derselben, sofern sie einen Begriff ausmachen."* Nearer still is the account which Reinhold gives of the act of judging, namely, "*Das Mannigfaltige einer Anschauung in eine objective Einheit zusammenfassen*" (*Versuch einer neuen Theorie des menschlichen Vorstellungsvermögens*, § LXXI, p. 435).

not directly presented, but only indirectly represented by a concept or a term, there the compulsion does not at first seem to be exercised by reality. Of course as regards Historical Judgments, that is, judgments which simply repeat, as it were, judgments previously formed under circumstances in which the subjects were still objects of immediate perception either to the person judging or to someone else in whom he places equal reliance, there the direct influence of reality seems to be scarcely diminished. But even in all other cases it may still be shown that it is reality which forces the judgments on us, though its influence is no longer so direct or immediate as in the case of perceptive judgments. The most obvious class of Non-perceptive or Conceptual Judgments consists of the so-called Abstract Universals, of which mathematical judgments form perhaps the most abstract species. Now take, for instance, the familiar judgments, "equilateral triangles are equiangular," or "equiangular triangles are equilateral." When we think of an equilateral triangle and also of an equiangular triangle we feel compelled to identify the objectivity of the one with that of the other, in the judgment, "equilateral triangles are equiangular," or "equiangular triangles are equilateral." Now what directly leads us to form such judgments is clearly not any perceived reality. For we have never observed perfectly equilateral or equiangular triangles, of which alone the above judgments are intended to be true. The perfect figures (more correctly, *classes* of figures) of Geometry are, in fact, not capable of sensuous particularity. Indirectly, however, it is Reality that exercises its influence here also. For even the most

abstract judgments are due to attempts made to explain that part of reality with which we come into direct contact. And one can generally also tell what particular portion or aspect of reality it is that elicits the several judgments from us. For instance, the judgment "equilateral triangles are equiangular" is forced on us by a consideration of the nature of space. The nature of space is such that given an equilateral triangle it would needs be equiangular as well. The direct or indirect influence of reality may be traced in all propositions, even in those concerning subjects of an imaginary and fictitious character. Take the familiar example, "A dragon is a serpent breathing flame." How do we come to say that? Probably because we have heard or read some such description. Now books, traditions, folklore, etc. are, as such, facts, or parts of reality. Hence we may say that even in statements dealing with fiction the indirect influence of reality asserts itself. And given any proposition we can always paraphrase it in such a way as to bring to light the reference to reality or some part of it. Nay, we can always paraphrase it in such a manner as to legitimately obtain a new proposition with reality, or a part of it, as subject, and the whole content of the original proposition as predicate. To this extent it may therefore be rightly asserted that all propositions have some (direct or indirect) reference to reality, or that reality is the ultimate subject of all propositions, or, which comes to the same thing, that the ultimate subject of every proposition is something real or existing.

### § 8. ULTIMATE, LOGICAL, AND GRAMMATICAL SUBJECT.

The question before us, however, is not whether propositions have an indirect or ultimate reference to reality. We are not concerned, at least not immediately, with the ultimate subjects of propositions. Our concern is with the subject that appears in the judgment, not that on which the whole judgment is ultimately based. Generally speaking it is the grammatical subject with which we have to do.

The last statement needs modification. While the logical subject of a proposition is generally nearer to the grammatical than it is to the ultimate subject, it nevertheless does not always coincide with the grammatical subject. Sometimes, as in the miniature Impersonals cited in section 6 above, the logical subject is not expressed at all. Occasionally the grammatical subject is the logical predicate, as the following examples may show. "Now is your opportunity"; here the logical subject is "now," the grammatical subject is "your opportunity," which is the logical predicate. "There stands Milton's tree"; here also the grammatical subject, "Milton's tree," is the logical predicate, the logical subject being "(that which) stands there." Again, the word "rain" may be the incomplete expression of a judgment the subject of which is the perceived reality, while the term rain is its logical predicate. Grammatically it would be paraphrased thus, "Rain is falling," with "rain" as the subject. Still the divergences between logic and grammar on this head are comparatively slight, and grammatical analysis is being gradually adjusted so as to fall into line with the logical analysis.



### § 9. GENERAL CONCLUSION: EXISTENTIAL NON-IMPLICATION.

Let us now return to our central problem. Do propositions necessarily imply the existence of their logical subjects? From what has been said above it should be clear that the question must be answered in the negative. The essential feature of propositions is that they claim to be true, but we have seen above that the truth of a judgment does not necessarily imply that the objectivity of its subject term must occupy a place in the real world, though the ultimate subject of every proposition is the real. If then the above account of truth be to that extent sufficiently correct it follows that propositions do not always carry with them existential implication as regards their logical terms.

### § 10. UNIVERSAL EXISTENTIAL IMPLICATION.

Those who maintain the contrary view are led to do so by a misapprehension of the real purport of the existential problem. The advocates of the view that all judgments imply the existence of their subjects, usually either (i) refer to the ultimate subject instead of the logical subject, or else (ii) extend the meaning of "existence" so as to include so-called logical and empirical existence. But a reference to either of these is irrelevant to our inquiry. For as regards (i), we have already seen (section 7 above) that the ultimate subject of every proposition is the real, and ignoring, as we may for our purposes, the difference between part and whole, we might say that the ultimate subject is the same for all judgments, and is the one real universe.



As regards (ii) it is obvious that to say the subject of a proposition must exist at least as idea or as meaning, is tantamount to saying that the subject-term has subjective intension or meaning<sup>1</sup>. But then these properties are common to all terms, and cannot therefore furnish a special problem for categorical propositions. If the subject term of a proposition is to denote an existent it is not enough for it to have subjective intension and meaning; it must denote something which exists in the world of reality in such a form as is implied in its meaning<sup>2</sup>. If the denotation of the subject term is a meaning or an idea (*e.g.*, terms like "the meaning of centaur," "Dante's conception of Paradise"), then of course it is only the reality of the corresponding meaning or idea that would be required in order that the term might be said to denote something real. But even so it must be observed that the meaning of such a term itself is quite different from the meaning which it denotes. Under all circumstances, then, the meaning of a term must be carefully distinguished from its extension even when the latter is a meaning or an idea. To say that the subject of a proposition has logical existence may only be an awkwardly expressed admission that it represents nothing real.

<sup>1</sup> Dr Keynes makes it quite clear that this is all he means by "logical existence." Following this usage one might perhaps describe the *suppositio materialis* and the subjective intension of a subject term as its verbal and psychological existence respectively. But such a multiplication of the meanings of "existence," though encouraged by German logicians who distinguish between *Sein* and *Realsein* or *Wirklichsein*, between *Existenz* and *Realität*, seems very objectionable and misleading. Cf. ch. II. sect. 10 *supra*.

<sup>2</sup> Cf. ch. II. sects. 7 and 10 above.

The subject of empirical existence is more complicated. It is closely bound up with the doctrine of the Universe of Discourse, which has of late become a kind of magic incantation whereby life may be infused into fictions. We must therefore examine that doctrine more closely and try to get at the real meaning of those who maintain that every proposition implies the existence of its subject in some universe of discourse.

### § 11. UNIVERSE OF DISCOURSE AND EMPIRICAL EXISTENCE.

The conception of a universe of discourse was first brought into prominence by De Morgan<sup>1</sup>. "For the most part," he tells us, "the objects of thought which enter into a proposition are supposed to be taken, not from the whole universe of possible objects, but from some more definite collection of them. Thus when we say 'All animals require air'...we should understand that we are speaking of things on this earth: the planets, etc....not being included." From this it would seem that for De Morgan the difference between the universe and the universe of discourse simply amounted to this, that the universe of discourse was usually only a part of the one real universe. This is also the sense in which Boole and Jevons understood it. "The universe of discourse," says Boole, "is sometimes limited to a small portion of the actual universe of things, and is sometimes co-extensive with that universe<sup>2</sup>." And

<sup>1</sup> *Formal Logic*, ch. iv.

<sup>2</sup> *Laws of Thought*, ch. xi.

Jevons<sup>1</sup>, following Boole's suggestion, speaks of the universe of discourse simply as a "limited universe".

More recently however the conception of a universe of discourse seems to have undergone a violent change. Contemporary logicians and psychologists have extended the scope of the idea far beyond its original limits. According to the original conception, if anything existed in any universe of discourse it would also have to exist in the universe of reality. For the universe of discourse, as we have just seen, was regarded either as co-extensive with the universe of reality, or as forming part of it. Now, however, the expression "universe of discourse" is employed also with reference to such regions as are supposed to lie outside the real universe. We hear of things existing in some universe of discourse even if they do not exist in the universe of reality. Thus, for instance, we are told that centaurs, the gods of the Greeks, the Muses, etc. do not exist in the world of reality, but that they do exist in the universe of mythology, of fiction, etc., as the case may be. Professor James actually enumerates the following imposing variety of worlds:

"(1) The world of sense, or of physical 'things' as we instinctively apprehend them, with such qualities as heat, colour, and sound, and such 'forces' as life, chemical affinity, gravity, electricity, all existing as such within or on the surface of the things.

"(2) The world of science, or of physical things as

<sup>1</sup> *Principles of Science*, ch. III.

<sup>2</sup> The expression "Limited Universe" occurs already in the *Contents* of De Morgan's *Formal Logic* (p. viii), but not in the body of the book.

the learned conceive them, with secondary qualities and 'forces' (in the popular sense) excluded, and nothing real but solids and fluids and their 'laws' (*i.e.*, customs) of motion.

"(3) The world of ideal relations, or abstract truths believed or believable by all, and expressed in logical, mathematical, metaphysical, ethical, or aesthetic propositions.

"(4) The world of 'idols of the tribe,' illusions or prejudices common to the race. All educated people recognize these as forming one sub-universe. The motion of the sky round the earth, for example, belongs to this world. That motion is not a recognized item of any of the other worlds; but as an 'idol of the tribe' it really exists. For certain philosophers 'matter' exists only as an idol of the tribe. For science, the 'secondary qualities' of matter are but 'idols of the tribe.'

"(5) The various supernatural worlds, the Christian heaven and hell, the world of the Hindoo mythology, the world of Swedenborg's *visa et audita*, etc. Each of these is a consistent system, with definite relations among its own parts. Neptune's trident, *e.g.*, has no status of reality whatever in the Christian heaven; but within the classic Olympus certain definite things are true of it, whether one believe in the reality of classic mythology as a whole or not. The various worlds of deliberate fable may be ranked with these worlds of faith—the world of the *Iliad*, that of *King Lear*, of the *Pickwick Papers*, etc.

"(6) The various worlds of individual opinion, as numerous as men are.

"(7) The worlds of sheer madness and vagary, also indefinitely numerous."

"Each world," Professor James thinks, "*whilst it is attended to* is real after its own fashion; only the reality lapses with the attention<sup>1</sup>."

That Professor James's picturesque account of "the many worlds" contains some valuable psychology, is beyond doubt; and it is, of course, with the psychological aspect of the question that he is primarily concerned. But when the problem is approached from the side of Logic, then Professor James's account seems superficial and inadequate. It certainly does not justify the serious acceptance of worlds other than the one real world, however differently that one real world may be conceived by different people. The very unity of consciousness seems to necessitate the recognition of but one real world, in which alone, if anywhere, all our experiences, and all objects of experience must be placed—though they may sometimes claim, and even have assigned to them, other than their legitimate places. "The total world of which the philosophers (and even the popular mind) must take account is," as the distinguished Professor rightly insists, "composed of the realities *plus* the fancies and illusions." True. But this does not mean (as Professor James thinks it means) that all the worlds enumerated above are "recognized by most of us as existing, each with its own special and separate style of existence." That seems more than questionable. It may be true of us in moments of unchallenged make-believe, not in the cool hours of sober, logical reflection. Fancies and

<sup>1</sup> *Principles of Psychology*, II. ch. XXI.



illusions *as* mere fancies and illusions have as much reality as have true ideas of real things. Rightly interpreted, such mere fancies may also furnish premisses for sound historical inferences, as in the case of mythology, for instance. In any case *as* ideas, or consistent systems of ideas, they are real, and belong to the one real world. On the other hand, in so far as the *ideata*, or objects of reference, of mere fancies and illusions do not exist in the real world, they exist in no other. It may be a harmless, picturesque device to install the shadowy, unreal *ideata* of mere fancies and illusions in worlds "where footless fancies dwell." But it is positively misleading to then speak seriously of "the many worlds" "existing, each with its own special and separate style of existence."

We have already had occasion to remark that there are different modes of existence. The existence of a rose, for example, is not of the same kind as that of an idea of a rose, or of that of the feeling which it may evoke. These different forms of existence, however, belong to different kinds of things. And it is quite inconceivable how one and the same object should have the option of several different forms of existence; how, for instance, a spatial object might exist as a purely temporal object, or an external as a merely internal one, and so on. In other words, the kind of existence required in order that a term may be said to be the name of something existing must vary with different terms, according to their several meanings. Each term must therefore be judged by its proper standard. But given any one term there are but two alternatives: either it does, or it does not denominate something



real. If it does, then its object of reference can have but one kind of existence, namely, that implied in its meaning, and that in the one world of reality. If it does not, then it is simply the name of a non-existent; it may have subjective intension, it may have meaning, it may have objectivity, nay, it has all these, but it does not denote anything real. There is but one universe of reality, and what does not exist in it exists nowhere else. That something may exist in some universe of discourse even if it does not exist in the universe of reality is an extravagant conception, and does not really mean what it seems to mean.

We are told, for example, that a centaur does not exist in the world of reality, but that it does exist in the universe of mythology. Let us endeavour to realise what this really means. If a centaur did exist, then it would have to exist in space as some kind of sensuous and sensible animal. That much is implied in the name. But no, it only exists as a myth or fiction. And this surely can only mean that it is not a "centaur" which exists, but only some "account of a centaur." The two terms, however, are totally different. The latter term, it is true, does denote something real, and that something exists in the real world; the former term does not denote anything that exists in the world of reality, but neither does it exist in any other world. Is it not irrelevant to refer us to one term when we are concerned with quite a different term? Take another instance, "The wrath of the Homeric gods." If that existed, then indeed it would not be necessary for any human being to have a perception of it. The meaning of the term does not require that. But the meaning

does lay it down as a *sine quâ non* of the existence of its object of reference that the gods in question should exist and experience a feeling of wrath much in the same way as we experience similar emotions. If this much is not implied then the statement that "The wrath of the Homeric gods is terrible" can only be an elliptical way of saying that "The account of the wrath of the Homeric gods is an account of a terrible wrath," or that "The Homeric account of the gods is an account of terribly wrathful gods." And it is only a futile evasion to say that "the wrath of the Homeric gods" exists in the world of mythology. For that can only mean that "an account of the wrath of the Homeric gods" or "the Homeric account of wrathful gods" exists, which is true, but irrelevant as regards the existence of "the wrath (itself) of the Homeric gods." The terms are quite different, and we have no right to say of the one what is only true of the other. Such confusions, as already remarked (ch. I. section 11), might be easily avoided if the trouble were only taken to give greater precision to the language we use.

It would be much better to return to the original, simpler conception of the universe of discourse, according to which it is always a part of the real universe, or a limited universe. If any thing really exists in such a limited universe, then it exists also in the real world; and existence in a universe of discourse can never be set off against existence in the world of reality, or real existence, to use a redundant expression. Those therefore who base their arguments in favour of the universal existential import of propositions on the ground of empirical existence in some universe of discourse other

than the real world practically yield on the main issue in so far as they admit that there is no universal implication of real existence, which for us is the only kind of existence. The universe of discourse is always a part of reality. And there is no difficulty in identifying it more or less approximately. In a previous section of this chapter (section 7 above) it has been pointed out that all judgments have some direct or indirect reference to reality or to a part of it, which has been called the ultimate subject of a proposition. Now it is this ultimate subject of a judgment that constitutes its universe of discourse. It is that part of reality which elicits the particular judgment from us. And this invariable reality of the limited universe clearly furnishes the reason why in Symbolic Logic the universe of discourse can never = 0.

The extension of the idea of the universe of discourse beyond reality, and the consequent extravagances about different orders of empirical and non-real existence are entirely due to an insufficient appreciation of the elliptical use of language, which is also at the root of the medieval doctrine of the *suppositio*, with all its superfine subtleties, and even of the much older doctrine of the different grades of being. And the doctrine of the Universe of Discourse, though valuable in itself just because it directs attention to the elliptical use of language whenever a definite sphere of reference is tacitly assumed, combines, in its more fantastic form, the abuses of both the older doctrines.

## § 12. THE SUPPOSED EXISTENTIAL IMPLICATION OF THE COPULA.

There are yet others who maintain that *primâ facie* all propositions imply the existence of their subject, on the ground that such an assumption is necessitated by the meaning of the copula, which is supposed to imply existence<sup>1</sup>. They point out that propositions *secundî adjacentis*, in which the predicate is a finite verb (*e.g.*, "man suffers"), there the function of the copula as a sign of judgment is exercised by the mere inflection of the verb. Now "is," they argue, is itself a finite verb like every other finite verb; in its case too, therefore, it is the verbal inflection alone that fulfils the function of the copula, in the strict sense, while the root retains its own meaning, a meaning which implies existence. In other words, according to these writers, "is" always = "exists."

But the argument is absolutely inconclusive. Suppose it were proved beyond a doubt that the original, etymological meaning of the substantive verb did imply existence<sup>2</sup>. What then? This would at most show that originally it was predicated only of existing objects. That is indeed highly probable also on independent grounds. The avowedly non-existent could scarcely have occupied the mind of primitive man. What early mankind thought about either was real, or at all events was thought to be real. The distinction between ideas that represent realities and such as do not could only

<sup>1</sup> See, *e.g.*, Jordan, *Die Zweideutigkeit der Copula bei Stuart Mill*.

<sup>2</sup> Jerusalem, *Die Urtheilsfunction*, p. 214 f., gives some interesting remarks on the copula.

have been learnt after many painful experiences and disappointments. But once the avowedly non-existent, too, received attention and was made the subject of judgments, then the copula, extended by analogy to these judgments also, must have become modified in meaning and implication. For obviously the original meaning of "is" could not transform a non-existent into an existent subject. The copula would therefore cease to mean always and uniformly the same as "exists." And that is what has actually happened. The substantive verb sometimes still has the same meaning as "exists," at other times it is simply a sign of predication without any existential implication whatever. That the copula cannot always have existential implication must be perfectly obvious from those propositions in which existence is more or less explicitly denied of the subject. Already Aristotle has pointed out clearly that the copula makes no implication as regards existence. In Greek the two meanings of the substantive verb were distinguished in writing—*ἐστί* and *ἔστι*. And in modern languages they are similarly differentiated by differences of emphasis in pronunciation. Dr Venn gives the following illustration:—"Whatever is, is either self-existent or created: the world is, therefore it is either self-existent or created." "The accent," Dr Venn points out, "necessarily laid here upon the first (and third) '*is*,' indicates the special signification which it bears in such a construction<sup>1</sup>." Boethius, Abelard and the chief medieval logicians have also strongly emphasized the distinction between "is" as

<sup>1</sup> *Empirical Logic*, ch. ix. p. 233. Cf. also Hoppe, *Die gesammte Logik*, § 363.



copula and "is" as existential predicate. Following Aristotle, they maintain that we can not legitimately infer *Homerus est* from *Homerus est poeta*. *Secundum accidens enim praedicatur esse de Homero, quod est poeta, sed non secundum se praedicatur de Homero, quod est*<sup>1</sup>.

Moreover when these supporters of the theory of universal existential implication of categorical propositions come to apply their theory to particular instances then they save the appearance of consistency only by resorting to such ways of escape as are suggested by the arguments dealt with in the preceding sections, namely, that the ultimate subject is real, or that the subject within the judgment has at all events "logical" (or "ideal") existence, or that it exists in some universe of discourse even when it does not exist in the world of reality. But these, as we have already seen, are only irrelevant makeshifts.

### § 13. THE CATEGORICAL AND THE HYPOTHETICAL FORM OF JUDGMENT.

One more view we must deal with in conclusion. Ueberweg<sup>2</sup> and others maintain, against Herbart,

<sup>1</sup> Aristotle, *Hermeneutica*, cap. xi., and the parallel passages in Boethius, Abelard, etc. Compare also De Morgan, *Formal Logic*, p. 53. "The most common uses of the verb are:—first, absolute identity, as in 'the thing he sold you *is* the one I sold him': secondly, agreement in a certain particular or particulars understood, as in 'He is a negro,' said of a European in reference to his colour: thirdly, possession of a quality, as in 'the rose is red': fourthly, reference of a species to its genus, as in 'man is an animal.' All these uses are independent of the use of the verb alone, denoting existence, as in 'man is [i.e. exists].'"

<sup>2</sup> *Logik*, § 68 and § 85, pp. 167 f. and 238 f. in 4th ed.



Drobisch and Beneke, that categorical judgments are distinguished from hypothetical judgments just through this, that, unlike the latter, they carry with them the implication of the unconditional existence of their subjects. This confronts us with the complex question of the relation between categorical and hypothetical judgments, which can only be treated very briefly here.

That categorical judgments have, on the whole, far greater existential implication than hypothetical judgments is perfectly obvious. But since we are concerned just with the question of existential import we must beware of arguing in a circle, as some logicians seem to do, in dealing with the question of the relative existential implication of categorical and hypothetical judgments. Dr Bosanquet describes the categorical judgment as "that which affirms the existence of its Subject<sup>1</sup>." As a kind of unintentional corollary to this conception of the categorical judgment (though Dr Bosanquet does not approve of it), Dr Venn makes doubt of the existence of the antecedent one of the two characteristics of an hypothetical judgment. "Briefly put," so Dr Venn writes, "my own view as to what may be called the fundamental significance of the hypothetical form is best expressed by saying that it (1) implies a connection, of the kind called a uniformity, between two or more phenomena; and (2) implies, along with this, some doubt on our part as to the actual occurrence, in a given instance, of the pair or more of events which compose this uniformity<sup>2</sup>." If these views had been

<sup>1</sup> *Essentials of Logic*, p. 116.

<sup>2</sup> *Symbolic Logic*, p. 210.

quite correct then we should have no problem to solve. For then all categorical judgment should clearly have existential implication. But first to define the categorical judgment as "that which affirms the existence of its Subject," and then to ascribe existential import to all categorical judgments would obviously be a *petitio principii*. Besides, when Dr Bosanquet makes affirmation of the existence of its subject the characteristic of the categorical judgment he does not mean to say that all judgments which common logic calls categorical carry with them such existential affirmation. On the contrary, he would exclude many of the so-called categorical judgments of ordinary logic from that class, and relegate them to the class of hypothetical judgments. In that case, of course, our problem would still remain the same, though its name might have to be changed. For then instead of asking, "Which categorical judgments carry with them existential implication?" we should have to ask, "Which of the so-called categorical judgments are really categorical?" But as we understand by a categorical judgment what common logic calls such, we may leave our question in its original form.

Now, as just remarked, there can be no doubt that categorical judgments on the whole carry with them existential implication far more commonly than hypothetical judgments do. Still the distinction between the two forms of predication is not absolute, only relative. Broadly speaking, judgment as such has two aspects: it has some, direct or indirect, reference to reality, and it seeks to formulate some connection of content. But it is only in the disjunctive proposition

that these two sides of predication appear more or less evenly balanced. In all other forms of propositions one of these aspects usually predominates, and tends to overshadow the other. In categorical propositions it is the reference to reality, that is, the existential aspect, which is usually predominant, while the connection (or connectedness) of the content as such receives inadequate expression. On the other hand, it is just this connection (or connectedness) of content that the hypothetical form brings out most clearly. Owing to this functional difference between the categorical and the hypothetical forms, judgments of a pronounced existential character are generally expressed in categorical form, whereas judgments of a pronounced connectional character are naturally expressed in hypothetical form. And since inherent connectedness as such may exist between mere suppositions even, this only tends to exaggerate by contrast the existential implication of categorical propositions. In reality one generally falls back on the categorical form when there is no occasion to lay stress on the inherent connection of the content, be that content real or not. If it had really been one of the functions of the hypothetical form, as Dr Venn thinks it is, to express doubt, then there might be some reason for thinking that the categorical form *per contra* implies certainty of existence. But that is not so. The hypothetical form as such expresses neither peculiar certainty nor peculiar doubt, but simply connection of content. A suggestion of uncertainty is introduced only when special stress is laid on the dependence of the consequent on the antecedent, by accentuating the particle "if." But

one may just as well introduce a special note of certainty by emphasizing the efficacy of the antecedent, *i.e.*, the necessity with which the consequent follows from it. Apart from these inflexional additions the hypothetical form just brings out the inherent connection of its content, and leaves no room for doubt about the connection as such. *Primâ facie*, therefore, there is nothing even to suggest such an absolute antithesis between the categorical and the hypothetical form as that between existential certainty and existential doubt. The ease with which many categorical propositions can be reduced to hypothetical form, and *vice versâ*, without any appreciable change of meaning, only shows how slight the difference between the two forms sometimes is, and suggests that it is only of a relative character, so that the one form may by degrees pass into the other. But the reader must consult the standard works on logic for an adequate account of the gradual transition from the demonstrative or impersonal categorical judgment, with its direct reference to some individual, concrete reality, to the pure hypothetical, predicating abstract connection without any direct reference to its individual, concrete embodiment.

So much on the general question. Let us now turn to that particular aspect of it which Ueberweg and others have raised as an objection against a non-existential interpretation of categorical propositions.

Herbart<sup>1</sup> seems to have been the first to state explicitly that categorical judgments did not necessarily imply the existence of their subjects; though the

<sup>1</sup> *Einleitung in die Philosophie*, § 53.

way in which he expressed himself has proved to be somewhat misleading. According to Herbart such an assertion as "the wrath of the Homeric gods is terrible" does not necessarily imply a belief in the reality of "the wrath of the Homeric gods," and is practically the same as the conditional judgment, "the wrath of the Homeric gods, if it exists, is terrible." Ueberweg thereupon objects that such a view effaces the fundamental difference between categorical and hypothetical judgments, the distinguishing feature of the categorical judgment being, according to Ueberweg, its unconditional affirmation of the subject. Ueberweg also contends that if Herbart's view were accepted then conversion would be an illegitimate inference. For the judgment, "the wrath of the Homeric gods, if it exists, is terrible," cannot justify the inference "some terrible thing, if it exists, is the wrath of the Homeric gods," seeing that "some terrible thing" does exist in the world of reality while "the wrath of the Homeric gods" does not.

Now Herbart did not express the non-existential view of categorical judgments quite accurately. What he had in mind seems to have been this, that the categorical judgment of the form "*S* is *P*" carries with it no more existential implication than a proposition of the form "*S*, if it exists, is *P*." But then to deny the unconditional affirmation of the existence of *S*, in "*S* is *P*," is a very different thing from explicitly introducing the clause "if it exists" into the original proposition. In the first place, the addition of such a clause only tends to distort the real meaning of the original judgment. For where the subject is actually assumed or asserted



to exist, as in perceptive and in affirmative existential judgments, there the clause is superfluous; where the subject is not assumed to exist, there the clause will often be irrelevant and distracting; while, lastly, where non-existence is, directly or indirectly, predicated of the subject, there the clause "if it exists" is absurd. In the second place, the addition of the clause "if it exists" does not yet necessarily change a categorical into a real hypothetical judgment. We need only compare a judgment of the form " $S$ , if it exists, is  $P$ " with a genuine hypothetical judgment to see that the former is not really hypothetical but only a categorical proposition with an irrelevant conditional clause. In a true hypothetical judgment the consequent must follow from the antecedent. Hence the clause "if  $S$  exists" can transform the categorical proposition " $S$  is  $P$ " into a true hypothetical proposition only when the predicate is a necessary consequent of the subject, and the consequent, moreover, not simply of the *character* of the subject but of its *existence*. Take, for example, the categorical judgment "all equilateral triangles are equiangular." The true hypothetical form of this judgment would be "if a triangle is equilateral it is equiangular," in which the antecedent contains the necessary condition of the consequent. Now compare this with the judgment "all equilateral triangles, if such exist, are equiangular." Here the clause "if such exist" is just an irrelevant addition, and in no way affects the real character of the original proposition. If we made the clause a normal antecedent then we should obtain the following hypothetical judgment, "if equilateral triangles exist equiangular triangles exist" (not "if equilateral triangles



exist they are equiangular," because this consequent would follow just as certainly from "if triangles are equilateral," without the addition of the existential clause in question). But that is evidently not the real meaning of the judgment "all equilateral triangles are equiangular."

We must defer the consideration of the general question of the validity of immediate inference by conversion, on a non-existential interpretation of categorical propositions, until we come to deal with the objections raised by Dr Keynes, which are practically the same as those of Ueberweg<sup>1</sup>. Here we shall just point out that the natural converse of "*S*, if it exists, is *P*" would be, not, as Ueberweg thinks, "some *P*, if it exists, is *S*," but, "some *P* is *S*, if *S* exists." And this presents no difficulty. The clause, "if it exists," should have been attached either to the same term in the converse as in the convertend, or to both terms; and then even the appearance of illegitimate inference would have been avoided.

In any case it is worth noting, in conclusion, that even Ueberweg does not take his existential interpretation of categorical propositions very strictly. For he is quite willing to allow the legitimacy of such a categorical judgment as "the wrath of the Homeric gods is terrible," and similar judgments about professedly non-existent subjects, on the ground that "the wrath of the Homeric gods" has "ideal," though not real, existence. In short, Ueberweg and his followers, like the writers discussed in the preceding section, are eventually compelled to fall back on distinctions

<sup>1</sup> See ch. v. § 7 below.

between different grades or spheres of existence in order to save their theory of the existential import of all categorical judgments. But the need of drawing such distinctions, as has been shown above, practically amounts to an admission that categorical judgments do not always imply the existence of their subjects.

We may conclude, then, that, taking "existence" in its strict sense, all practically arrive at the same general conclusion, namely, that categorical propositions do not always imply the existence of their logical subjects, much less of their predicates. The problem of the existential import of categorical predication admits of a more determinate solution than the broad conclusion at which we have so far arrived. It will be the object of the following chapter to obtain more detailed results.

## CHAPTER IV.

### THE EXISTENTIAL IMPORT OF THE SEVERAL KINDS OF CATEGORICAL JUDGMENTS.

#### § 1. DR VENN AND DR KEYNES MAKE THE QUANTITY OF PROPOSITIONS THE TEST OF THEIR EXISTENTIAL IMPLICATION.

THE general conclusion to which our investigation so far points is that categorical propositions do not always or necessarily carry with them the implication that there exist things denominated by their terms. And this general view has the support of Herbart, Drobisch, Beneke, Sigwart, Venn and Keynes, though they severally base it on different reasons. We are now confronted with the task of determining more precisely which categorical propositions do and which do not imply the existence of things corresponding to their subjects and predicates. This task has been partly attempted by Dr Venn and Dr Keynes, but the results at which these eminent logicians arrive do not seem altogether satisfactory.

In what follows we shall mostly restrict ourselves to the consideration of the existential import of categorical

propositions as regards their subjects only, since the reality of the predicate stands intimately associated with that of the subject. The precise relation between the two will be indicated in due course.

Dr Venn and Dr Keynes make the existential import of propositions dependent on their quantity. They hold that universal propositions do not imply the existence of their subjects, while particular propositions do carry with them such an implication. Now what strikes one at first in this view is an apparent want of connection between the existential import and the quantity of propositions. *Primâ facie* what relation can there be between them? Dr Venn and Dr Keynes do not indeed profess to base their conclusions on *a priori* reasoning from any supposed inherent connection between the quantity of propositions and their existential implication. Their generalisations are professedly in part empirical and partly conventional. In practice universal propositions do not always carry with them existential implication as regards their subjects. Hence if we are to generalise at all we must conform to the rule of parsimony and permit no universal proposition as such to carry with it the presumption that its author believed in the existence of its subject. On the other hand, particular propositions, they maintain, do almost always carry existential implication with them. That there are some exceptions they admit. But these are not sufficiently numerous or important to override certain advantages which may be gained by assuming that all particular propositions do imply the existence of their subjects. The main contention of Dr Venn and Dr Keynes is that their

view of the matter is a legitimate convention useful for the purposes of Formal and Symbolic Logic.

One is led to suppose that Formal and, more especially, Symbolic Logic must not be encumbered with precise distinctions between too many kinds of propositions. Labouring, as they do, or seem to do, under the exacting necessity of reducing all kinds of judgments to a small number of formal types, there is some danger of their overreaching themselves. By endeavouring to force all sorts of propositions into the same mould one may get the form and lose the substance. This is especially true of Symbolic Logic. The fact is that Symbolic Logic mostly does not deal with the given propositions at all, but only with certain inferences from them. How can any one maintain that  $S \text{ non-}P = 0$ ,  $SP = 0$ ,  $SP > 0$ ,  $S \text{ non-}P > 0$  really represent  $SaP$ ,  $SeP$ ,  $SiP$ , and  $SoP$ , respectively? The former can only be inferences from the latter. This does not indeed destroy the value of Symbolic Logic. So long as the inferences are legitimate or are made legitimate by certain explicit conventions the processes of Symbolic Logic are at all events fully justified. And if Formal and Symbolic Logic should really find it necessary to assume (explicitly of course) a certain convention as regards the existential import of categorical propositions then no one will gainsay it. Of this, however, more will be said in the next chapter.

But, as already remarked in the Introduction, we are not directly concerned with any ulterior purpose. Our object is to get at the existential import of categorical predication as it is, not as it should be, or as it must be assumed to be to suit the supposed require-

ments of Formal or Symbolic Logic. And for that purpose it will be necessary to take a somewhat closer scrutiny of the different kinds of categorical judgments from a different and *primâ facie* more relevant standpoint than that of the quantity of propositions.

## § 2. CLASSIFICATION AND EXAMINATION OF CATEGORICAL JUDGMENTS FOR THE PURPOSE OF THIS INQUIRY.

In a previous chapter<sup>1</sup> it has been shown that whatever is regarded as an object or subject of a living experience is certainly regarded as real or existent. Hence it necessarily follows that whenever a judgment shows evidence that its subject is so regarded by the person judging, it must undoubtedly carry with it existential implication, at least so far as the subject is concerned. This accordingly suggests our first dichotomous classification of categorical judgments, namely, into A. Perceptive Judgments, and B. Conceptual (or non-perceptive) Judgments, according as the logical subjects of the judgments are or are not clearly implied to be objects (or subjects) of immediate apprehension<sup>2</sup>.

A. *Perceptive Judgments.* In these judgments, then, the subjects are clearly understood to be objects (or subjects) of direct perception or intuition. In this class of judgments we may again distinguish two main species, namely, (*a*) judgments which, when expressed in language, omit the verbal representation of the subject, and (*b*) those in which the subject is verbally repre-

<sup>1</sup> Chapter II. §§ 3—7.

<sup>2</sup> The Table of Judgments given on p. 106 may help to elucidate this and the following sections.



sented, though more or less inadequately. The first species (a) includes Impersonal and Enthymematic Judgments such as "it is raining," "it is hot," "*poenitet me*," "neuralgia" and the like. As already explained<sup>1</sup>, the subject of such a judgment is something immediately apprehended, but is verbally unrepresented. The term which appears in each case is really the predicate of the judgment. In all such judgments the subject is obviously regarded as real, and, when affirmative, the predicate term is clearly intended to denote the existing subject. The second species of perceptive judgments may be called (b) Demonstrative Judgments, because, when expressed in the form of a proposition, there is some kind of demonstrative or its equivalent (a personal pronoun or an adverb), in the place of the subject term, indicating that the subject of the judgment is an object (or a subject) of immediate apprehension. The subject may be represented by an isolated demonstrative such as "this," "that," etc., or by a personal pronoun, "I," "you," etc., or by an adverb which is equivalent to a demonstrative, such as "here," "now," etc. Or again the subject may be represented more adequately by the addition of some name to the demonstrative. For example, "This flower (or 'this white flower') is a rose." Demonstrative propositions, too, clearly imply the existence of the subject, and when affirmative the predicate is obviously intended to denote the same real thing indicated by the more or less inadequate subject term. The predicate term however must not always be taken at its face value. Allowance must always be made for that elliptical use

<sup>1</sup> See p. 58 f.

of language indicated by the conception of the universe of discourse. For instance, pointing to a picture one may quite legitimately say, "This is the devil," though he does not believe in the existence of such an adversary. Now some would say that the existence attributed to "the devil" need only be empirical existence in the world of "the Christian heaven and hell," not necessarily in the real world. But we have already rejected this mode of expression as misleading. It would be far better to say that there is no existential implication at all as regards the predicate even of an affirmative perceptive judgment than to resort to the confusing devices of "empirical" existence. In reality however there is no difficulty in dealing with such seeming exceptions as the example given. By pointing to the picture the speaker has clearly defined his universe of discourse; he has given to understand that he is speaking of pictures, or the world of pictures, as some would prefer to put it. Now the real subject of his judgment is clearly the picture to which he is pointing, and the "this" of his assertion consequently means "this picture." Again, as already explained, the objectivity of the predicate term of an affirmative judgment, if the judgment is, as it presumably is, meant to be true, must be intended to coincide with the objectivity of the subject. Hence, in the example before us, the object of reference of "the devil" must be the same as the object denoted by "this," namely, the picture. And the proposition, if expressed more adequately, should read thus: "This picture is a picture of the devil." Thus expressed, the existential implication of the judgment as regards the predicate,

as well as the subject, becomes quite clear. What generally happens when there is a mutual understanding about the limits of the sphere of reference, or the universe of discourse, is this, the term denoting the limited sphere or universe is, for the sake of brevity, omitted altogether from the proposition, and the resulting terms are therefore elliptical. This kind of reduction is closely analogous to the elimination of a common factor from both sides of an algebraic equation. The proposition "This picture is a picture of the devil" is condensed into "This is the devil," just as the equation, say,  $x(a + b) = x(c - d)$  is reduced to  $a + b = c - d$ . If the data necessary for the re-expansion of such reduced or abbreviated terms were always at hand we should probably be in a position to assign existential implication to many more categorical propositions than we are apt to suppose. But in the absence of such data it is far better to withhold existential import from many categorical propositions as regards one or both of their terms than ascribe to the wrong terms existential implication in fictitious worlds. Such a multiplication of supposed worlds only tends to demoralise that systematic unification of man's knowledge of the one real universe, which is the aim of all philosophic study and reflection.

B. *Non-Perceptive or Conceptual Judgments.* Under this designation are grouped all judgments which, when expressed in propositions, have their subjects as well as their predicates represented by general terms unrestricted by demonstratives. In the case of such propositions we have no ostensive reason to assume that the person judging means to refer directly to

objects (or subjects) of immediate perception or intuition, except, of course, when there is special additional information to that effect. What guidance, then, do such propositions afford us by the aid of which we might come to some decision as regards their existential import? Well, in the first place, we must avail ourselves of such existential information as they explicitly furnish, in some instances. Accordingly our classification of this class of propositions is into (a) Existential Judgments, and (b) Non-Existential Judgments, according as they do or do not convey explicit information in regard to the existence of their subjects. The names Existential and Non-Existential Judgments, as we shall see presently, are here used in a somewhat unusual sense.

(a) *Existential Judgments* are judgments which have for their predicate term some such expression as "existent" or "real." For example, "Dwarfs exist," "There are cannibals," "*Deus est*," "Giants are not real," "There is no devil," and so on. As the examples show, existential propositions may be either affirmative or negative, though common usage restricts the name so as to denote the affirmative propositions only.

(1) *Affirmative Existential Propositions*, or, as we might also call them, Affirmative or Positive Existentials, have been called by some Thetic Judgments because they posit the existence of the subject. The special function of these propositions clearly is to express their authors' belief in the existence of some thing or things denoted by the subject term.

(2) *Negative Existential Judgments, or Contra-Existentials*, as we might also call them (instead of

“Non-Existentials” as they are usually but incorrectly called), on the contrary, not only have no existential implication, but actually predicate the non-existence of anything corresponding to the subject term. It is their express function to deny existence.

(b) *Non-Existential Judgments*, or judgments in which neither existence nor non-existence is explicitly predicated of the subject. Of this class of conceptual or non-perceptive judgments there is one subdivision which for our purposes ranks almost equal with the perceptive judgments, namely, those judgments which the context shows to have been intended by their authors as the expression of a past perceptive judgment whether of their own or of someone else in whom they place equal reliance. These may accordingly be called (1) *Historical Judgments*<sup>1</sup>. The difference between historical and perceptive judgments is this, that whereas the latter bear on the face of them some indication that the subject is something that is immediately apprehended, the former require the supplementary information of their context to show that the subject was in the first instance something immediately perceived. Moreover the subject of an historical proposition, unlike that of a perceptive proposition, need not be an object of immediate apprehension at the time of judging; though, like perceptive propositions, historical judgments, too, imply the existence of something corresponding to their subject term, and, when affirmative, also of something corresponding to the predicate term, at the time to which the judgment refers, that is, the time *in*

<sup>1</sup> Cf. W. Jerusalem, *Die Urtheilsfunction*, iv. § 7.



predication, though not necessarily at the time *of* predication.

We have still to cope with a large class of conceptual judgments which are neither existential nor historical, and which we may for the sake of convenience broadly designate by the rather cumbrous name of (2) *Non-Existential Non-Historical Conceptual Judgments*. Is it possible to come to any definite decision as regards the existential import of these remaining judgments? If so, how?

### § 3. J. S. MILL'S TEST OF EXISTENTIAL IMPLICATION.

It will be remembered that Mill too failed to see any connection between the quantitative form of propositions and their existential import, and that he accordingly suggested a totally different test. He distinguished, namely, between Essential and Accidental Propositions. An Essential Proposition, according to Mill, does not carry with it any presupposition as to the existence of the subject. "But an accidental or non-essential affirmation does imply the real existence of the subject, because in the case of a non-existent subject there is nothing for the proposition to assert<sup>1</sup>." Mill thus made the relation of the predicate to the subject of a proposition the decisive test of its existential implication.

Without endorsing Mill's view on the whole problem of the existential import of predication, we may yet safely adopt an amplification of the principle

<sup>1</sup> *Logic*, Book I. ch. vi. § 2.

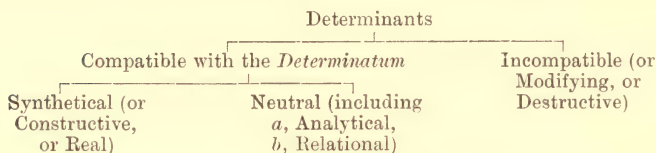


underlying his mode of treatment, at all events for the sake of inquiring into the existential implication of such propositions as we still have to examine. In other words, we must find the clue to this part of our inquiry in the relation of the predicate to the subject. Some digression will here be necessary.

#### § 4. DETERMINANTS.

By a Determinant is meant any expression which is used to qualify a term, whether as an adjective, or adjectival phrase, or as a predicate. Every term may therefore be treated as a possible determinant of every other. The term so determined or qualified is called the *determinatum* or *nomen determinatum*. And of course every term may be regarded as a possible *determinatum* of every other term.

Comparing the connotation of a determinant with that of its *determinatum* the two must be either compatible or incompatible with one another. If incompatible the determinant must modify or rescind the connotation of the *determinatum*. If compatible the determinant must either add something new to the content of the *determinatum* or not. This last distinction is partly the same as that between synthetical and analytical judgments, though, as we shall see presently, the two are by no means identical. We shall call the former kind of determinant Synthetical, and the latter Neutral. By combining the several distinctions we obtain the following scheme of determinants.



A few brief comments and illustrations should make these distinctions sufficiently clear. In the above scheme Determinants are classified into three main classes :—

- (1) Synthetic, Constructive or Real Determinants ;
- (2) Neutral Determinants (including *a*, Analytical and, *b*, Relational Determinants);
- (3) Incompatible, Modifying or Destructive Determinants.

(1) A Synthetic, Constructive or Real Determinant is one that adds something to the content of the *determinatum*, that is, one that enriches the meaning of the *nomen determinatum* by adding some further detail or details which are compatible with the independent content of the *determinatum*. Probably most of the determinants we use belong to this category. For example, “Blue eyes,” “White roses,” “Monarchs who are tyrants,” “Some men are pedants,” “Some triangles are equilateral,” “The ignorant are sometimes acute.”

(2) A Neutral Determinant is one which, though not incompatible with the content of the *determinatum*, at the same time adds nothing to the independent content of the *nomen determinatum*. Such a determinant is therefore “neutral” in the sense that it neither increases nor diminishes the content of the *determinatum*. Such determinants are not yet on that

account necessarily useless. For, in the first place, to assume a universal knowledge of the full signification of every term used, would be an attitude of unjustifiable optimism. A determinant which may be useless or needless for one person may yet help to make things intelligible to another. Moreover, Neutral Determinants may actually convey much positive information even though they do not directly add anything to the independent content of the *determinatum* as such. The information they convey may be of a relational character. Neutral Determinants may, in fact, be subdivided into (a) Analytical or Explicative, and (b) Relational Determinants.

(a) Analytical or Explicative Determinants are such whose meaning is identical either with a part or the whole of the content of the *determinatum*. When used as predicates they help, as already suggested, to analyse or to unfold the content of the subject term to others, or to emphasize some particular element in the content of the subject term. The predicate of every analytical (or "trifling," as Locke calls it) proposition is an analytical determinant. In short whenever a determinant is a genus or differentia of its *determinatum* it is an analytical determinant.

(b) A Relational Determinant is one that indicates the relation of the thing denoted by the *determinatum* to something else. For example, "Your book," "Kant's native town," "These books belong to the University Library," "*A* is greater than *B*." To this class of determinants also belong such terms as "real" and "existent," which indicate a certain relation of the *determinatum* to the person judging and to the world

of reality in general. To predicate reality or existence is certainly to go far beyond the mere meaning of the subject term. The information conveyed by the predicate, however, is not constructive or real in the sense explained above. That is what Kant meant when, speaking of the ontological proof of God's existence, he remarks that "existence" is no real predicate; it adds nothing new to the absolute content of its subject term or *determinatum*. Expressions like "True" and "Genuine" also mostly belong to this class of determinants. They add nothing new to the independent content of the *determinatum* as such. The information they convey is that there is a relation of agreement between profession and fact. For example, "true, genuine or real friend," strictly speaking, tell us no more than the word "friend" alone would. The information added by the above determinants is of a purely relational character: they suggest that a certain individual who professes to be a friend actually is a friend, or is what he professes to be.

(3) Incompatible, Modifying or Destructive Determinants are such whose content is opposed to at least some part of the content of the *nomen determinatum*. They consequently rescind or cancel part of the content of the *determinatum* and so reduce or modify its otherwise usual meaning. For example, "faithless friends," "a centaur is a poetic fiction," "some people's castles are in the air," "ghosts are the creatures of an overwrought imagination," "some supernatural beings are mere projections of man's extravagant fancies."

It is perhaps scarcely necessary to direct the reader's attention to the fact that comparatively few expressions

have fixed places in the above scheme of determinants. In this respect determinants resemble the predicables. They belong now to one class, now to another, according to the name which they determine. One and the same expression may in turn belong to several or all classes of determinants enumerated above. A few exceptions may be noted. All relative terms, also expressions like "existent," "real," "true" and "genuine," when used as determinants, seem to be invariably relational determinants. Similarly terms such as "unreal," "false," "fictitious" and "imaginary" seem to be always modifying or destructive determinants.

#### § 5. EXAMINATION OF CATEGORICAL JUDGMENTS (CONTINUED).

Let us now return from our digression and see how we might utilise the results yielded by our consideration of the different kinds of determinants in the attempt to solve the problem of the existential implication of such conceptual propositions as are neither existential nor historical.

(i) When the predicate of such an affirmative proposition is a destructive or modifying determinant of the subject then the proposition bears a close resemblance to contra-existential judgments, and practically implies or even predicates the non-existence of its subject, though, unlike contra-existential judgments, it at the same time carries with it a strong implication of the existence of something else, which may be described as its modified or reconstrued subject. Take, for example, the following propositions: "Centaur's are



poetic fictions," "some saints are hypocrites," "some flowers are artificial," "friends are sometimes treacherous," "some people's castles are in the air." The ostensive object of all these judgments is, surely, to deny the existence of their several subjects. It may of course be urged, and rightly urged, that even these propositions imply the existence or reality of something, namely, the reality of "fictitious centaurs" or "poetic fictions about centaurs," of "hypocrites who pretend to be saints," of "artificial flowers," of "treacherous friends," and of "air-castles," respectively. But that does not affect our contention that the reality of the subjects which appear within these judgments is denied. And it is only the subject directly expressed within the proposition that concerns us here, not the ulterior or ultimate subject, or the reality to which the proposition refers indirectly. Now the actual subjects within the above propositions are "centaurs," "some saints," "some flowers," "some friends," and "some people's castles," respectively. But "poetic fictions about centaurs" are not "centaurs," "hypocrites who pretend to be saints" are not "saints," "artificial flowers" are not "flowers," "treacherous friends" are not "friends," nor are "air-castles" "castles." That the above propositions should also indirectly indicate something real is nothing abnormal. It has been shown in the preceding chapter that all judgments make some, direct or indirect, reference to reality or a part of it, and that any proposition can easily be recast into such form as to make the indirectly indicated reality the subject of the new proposition, with the whole content of the original proposition for its predicate. Here, however, we are



only concerned with the reality of the actual subject within the given proposition, not with that of a reconstructed, ultimate subject—though, of course, one need not on that account ignore the existential information about such reconstructed subjects, whenever such reconstruction is possible.

With negative judgments of this description it is naturally quite different. The more or less direct implication of the non-existence of the subject within affirmative propositions of this kind totally disappears when they are negative. Should the predicate of such a negative proposition be some such term as “unreal,” “non-existent” or “fictitious,” that is, any term which, either generally or in that particular context is practically used as the opposite of “real” or “existent,” then the reality of the subject is more or less directly predicated, and the proposition is to all intents and purposes nothing less than the obverse of an affirmative existential judgment. But when the predicate of such a negative proposition is some other kind of modifying determinant of the subject its existential implication is not so clear.

(ii) Let us next consider those cases in which the predicate is a neutral determinant of the subject. Neutral determinants, it will be remembered, are either analytical or relational.

(α) First, then, let us consider affirmative propositions with predicates which are analytical determinants of their subjects. To this class belong what are variously known as Analytical, Explicative, Verbal and Trifling Propositions. These propositions, it is evident, are equally true whether their subjects do or do not

denote existing things, since the predicate is already included in the very meaning of the subject. They consequently do not carry with them any existential implication in regard to the subject within the judgment. All definitions and such other propositions whose predicates are either the *genera*, or *differentiae*, or synonyms of their several subjects are included in this class.

Analytical or Explicative Judgments cannot normally be negative. For that would evidently lead to self-contradiction. If the predicate is, as *ex hypothesi* it is supposed to be, an analytical determinant of the subject, then it must already be included in that subject. How then can such a predicate be denied of the subject? When, therefore, such specious forms of negative propositions with analytical predicates are met with, it will be found that they do not really mean what they at first seem to mean. They are mostly either singular or particular, and the copula has a time signification (*i.e.*, "is not" = "is not now," or "is no longer"), or the predicate is not used quite literally. For example, "the fire is not burning," "some men are not rational," "some houses are not inhabitable." In some cases such negative propositions are practically the obverse forms of affirmative propositions with modifying or destructive determinants for their predicates.

( $\beta$ ) Coming next to propositions with relational determinants for their predicates, these seem at first to be different existentially from those which have analytical determinants for their predicates. Especially so since we have included such terms as "real" and

"existent" among relational determinants. In reality, however, the class of propositions which we are now considering have not much more existential implication than those with analytical predicates. Existential propositions have already been dealt with; they form a separate class with which we are not at present concerned. And as for other conceptual propositions with relational determinants for predicates, a few instances of such propositions on mathematical subjects may suffice to show that they do not necessarily carry any existential implication with them. For example, "a square is greater than any circle which it encloses," "a circle is greater than any square which it encloses." These do not imply the existence of perfect squares or circles. Again, diagrams may be, and actually have been drawn to illustrate Dante's *Divine Comedy*, and we speak of its several regions as standing in such and such relations one to another, without implying that we believe in their reality.

We may conclude, then, that conceptual non-existential non-historical propositions whose predicates are neutral determinants of their subjects do not necessarily carry with them existential implication.

(iii) Lastly we come to conceptual non-existential non-historical propositions having for their predicates synthetical or constructive determinants of their subjects.

"An accidental, or non-essential affirmation," says Mill, "does imply the real existence of the subject, because in the case of a non-existent subject there is nothing for the proposition to assert. Such a proposition as, The ghost of a murdered person haunts the

couch of the murderer, can only have a meaning if understood as implying a belief in ghosts; for since the signification of the word ghost implies nothing of the kind, the speaker either means nothing, or means to assert a thing which he wishes to be believed to have really taken place<sup>1</sup>." On the other hand, there is the view of Dr Venn, who maintains that accidental predication does not necessarily imply the existence of the subject. "Take, for instance, the example of a griffin," Dr Venn suggests. "If I want to pourtray one I am bound to give it claws and wings, because these are implied in the name; but I may add on, according to pleasure, a multitude of such accidents as colour, attitude, size, and so forth. Just as imaginary notions admit of definition as accurately as real ones, so do they admit of accidental predication<sup>2</sup>."

Generally speaking it is somewhat unusual to form accidental judgments about unreal subjects. In the case of real things there is always room for accidental predication on account of individual peculiarities and changes wrought by change of time or place. With unreal subjects, however, it seems at first scarcely possible to get out of them more than is put into them: their conventional meaning, or content can be unfolded in analytic or explicative propositions; but that is all, it would seem. In that case, of course, accidental or non-essential predication would be restricted to real subjects exclusively, and all non-essential propositions would consequently imply the existence of their subjects. And yet Dr Venn's

<sup>1</sup> *Logic*, Book I, ch. vi. 2.

<sup>2</sup> *Empirical Logic*, ch. xi. p. 294.

contention does not seem unjust. Why may we not conceive imaginary beings with varying accidental attributes? The above remarks of Dr Venn clearly vindicate such a course. If so, then we may legitimately predicate accidental attributes of unreal subjects, as in the following proposition, "some griffins are black<sup>1</sup>." It might conceivably be objected that such a proposition would be justified only if the reference is to black griffins, and that the proposition should, therefore, read "Black griffins are black," which is essential or analytical. But such an objection, though not altogether unreasonable, must be considered inadequate. It might be, and indeed has been urged with an almost equal show of cogency against most, if not all, accidental propositions, even when the subjects are real. Accidental predication is no less legitimate, though no doubt less frequent, in the case of unreal subjects than in the case of real subjects. Works of art or of fiction may suggest particular propositions in which accidental attributes are predicated of imaginary subjects. Those works of art or of fiction will then be the realities to which such propositions refer indirectly, while the subjects within the propositions may denote nothing real. Moreover, it must not be overlooked that synthetical determinants include *propria* as well as accidents in the narrower sense. And, like analytical determinants, a *proprium* may be predicated of a subject, whether the subject is something real or not.

<sup>1</sup> This may seem more than Dr Venn would allow, since he maintains that particular propositions have existential import. But then allowance must be made for Dr Venn's recognition of other than real existence.

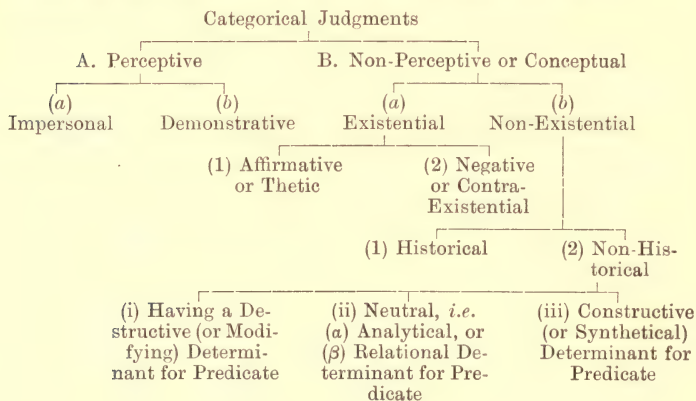


For example, "All (or some) equilateral triangles are equiangular," "All (or some) isosceles triangles have the angles at the base equal one to another." And we may also have particular synthetical propositions in which the predicate is a species of the subject term. For instance, "some triangles are isosceles," "some rectangles are squares," in neither of which is the subject term supposed to denote a real existent.

These considerations therefore lead us to conclude that conceptual non-historical non-existential judgments which have constructive or synthetical determinants for their predicates do not necessarily carry with them any implication as regards the existence of their subjects, much less of their predicates.

#### § 6. TABLE SHOWING THE PRECEDING CLASSIFICATION OF CATEGORICAL JUDGMENTS.

The following Table shows the classification of Categorical Judgments adopted in this chapter:—





The derivative classes, excepting affirmative and negative existential judgments, can of course be further subdivided into affirmative and negative forms.

## § 7. SUMMARY.

The final results of our inquiry into the existential import of categorical predication may now be briefly summarised as follows.

All predication has some reference to the world of reality or a part of it. But not all judgments have a direct or immediate reference to reality. The subject within the judgment, as distinguished from the ultimate subject, need not always be something existing.

One pronounced difference between categorical and hypothetical judgments is, that in categorical judgments the reference to reality is mostly direct, whereas in hypothetical judgments it is mostly indirect. But this difference can only be represented as a tendency, not as an invariable rule. The existential difference is only an indirect consequence of the characteristic difference of the two forms of judgment, but does not itself constitute that characteristic difference. Hence hypothetical judgments may refer to reality directly as well as indirectly, just as categorical judgments frequently refer to reality only indirectly instead of directly.

Even when the reference to reality is only indirect the proposition can always be recast in such a way as to bring that reference to reality into greater prominence, by making reality, or that particular part of it to which it refers indirectly, the subject of a new judgment in which the whole content of the original

proposition appears as predicate. To this extent it is true that the ultimate subject of every judgment is real or existent. But the ultimate subject of a proposition is not the same as the subject within the proposition. And usually when reference is made to the subject of a proposition the allusion is to the subject within the proposition, not to the ultimate subject.

Using the term "subject" in the sense of subject within the judgment, and understanding by "existence" existence in the world of reality, we may tabulate the several kinds of categorical judgments according to their existential import in the following order.

- a. Judgments which directly or indirectly predicate existence of their subjects:—
  - i. Affirmative Existential Judgments;
  - ii. Such Negative Judgments with destructive determinants for their predicates as may be obverted into affirmative existential judgments.
- b. Judgments which imply the existence of their subjects:—
  - i. Impersonal Judgments;
  - ii. Demonstrative Judgments;
  - iii. Historical Judgments.
- c. Judgments which directly or indirectly predicate non-existence of their subjects:—
  - i. Contra-existential Judgments;
  - ii. Affirmative Judgments with destructive determinants for predicates;
  - iii. Negative Judgments with analytical determinants for predicates.

- d. The existential import of all other judgments depends on collateral evidence, and each case must be treated on its own merits.

The existential import of judgments as regards their predicates may be expressed thus:

1. With the obvious exceptions of negative judgments in which the predicate is a term like "unreal" or "non-existent," and which are practically the obverse forms of affirmative existential judgments, no negative judgment necessarily implies the existence of anything corresponding to its predicate term.
2. All affirmative judgments which imply the existence of their subjects also imply the existence of things denoted by the predicate terms. (This does not mean that when the subject name of an affirmative judgment denotes something real then its predicate term must also denote something real. The significance of the distinction will be explained in the next chapter<sup>1</sup>.)

Lastly, we may also note briefly certain negative (non-existential) implications involved in universal propositions, as regards certain complex terms.

1. *All S is P* involves, by the Law of Contradiction, a denial of the possibility, and therefore also of the actuality, of *S* being  $\bar{P}$ . Hence  $SaP$  involves  $S\bar{P} = 0$ .
2. In like manner *No S is P* denies, even more directly, the possibility of *S* being *P*. In other words,  $SeP$  involves  $SP = 0$ .

<sup>1</sup> See p. 146 f.

## CHAPTER V.

### THE PROBLEM OF THE EXISTENTIAL IMPORT OF CATEGORICAL PREDICATION IN RELATION TO FORMAL AND SYMBOLIC LOGIC.

#### § 1. FORMAL LOGIC AND THE QUESTION OF EXISTENCE.

WHAT has the question of existence to do with Formal Logic? That is the first question that suggests itself. It is commonly held that Formal Logic is primarily concerned with the formal validity of certain inferences from given premisses, not with the question of the material truth of the given premisses or the conclusion, not therefore, it would seem, with the question of the real existence of things corresponding to the terms of the given premisses. If so, then the whole problem of existential implication would seem to be extra-logical. And this view receives some slight support from Jevons. Referring to De Morgan's contention that the middle term of a valid syllogism must denote something existing, Jevons remarks, "I do not see how there is in deductive logic any question about existence. The inference is to the effect that if the

propositions  $P$  is  $Q$  and  $Q$  is  $R$  are true, then the conclusion  $P$  is  $R$  is true. The non-existence of  $Q$  may possibly render one or both premisses materially false, in which case the reasoning vanishes, but is not logically defective<sup>1</sup>." Jevons is not altogether loyal to this view: his Criterion of Consistency<sup>2</sup>, as Dr Keynes has shown<sup>3</sup>, is implicitly in contradiction with it. But that does not necessarily affect the intrinsic soundness of the view.

On the other hand, Dr Venn and Dr Keynes maintain that the question does intimately concern Formal and Symbolic Logic. "No logician," Dr Venn holds, "who utters a proposition of the form 'All  $X$  is  $Y$ ,' can reasonably refuse to say *Yes* or *No* to the question, Do you thereby imply that there is any  $X$  and  $Y$ ? And even if the question were evaded in this particular form, the distinction involved in it cannot be evaded. It is at least clear that such a proposition puts ' $X$  which is *not*  $Y$ ' upon a different footing from ' $X$  which *is*  $Y$ .' And so with other propositions. It is impossible intelligently to accept a categorical assertion without admitting that a distinction is thereby introduced in respect of the subject-matter with which it deals. Phrase it how we will:—that such and such things do not exist, are denied, etc.: that such and such terms have nothing corresponding to them, etc.—the disjunction in respect of admissibility is necessarily introduced. It may take the form of an alternative between rejection and non-rejection,—as I hold to be

<sup>1</sup> *Studies in Deductive Logic*, p. 141 f.

<sup>2</sup> *Ibid.* p. 181.

<sup>3</sup> *Formal Logic*, p. 185.

the case in universal propositions. It may take the form of an alternative between acceptance and non-acceptance,—as I hold to be the case in particulars. But the same substantial distinction, in some form or other, is unavoidable in all rational assertion and denial<sup>1</sup>.” Dr Keynes tries to connect the existential problem even more intimately with the function of Formal Logic. “It is of course no function of formal logic to determine whether or not certain classes actually exist in any given universe of discourse, any more than it is the function of formal logic to determine whether given propositions are true or false. But it does not follow that formal logic has, therefore, no concern with any questions relating to empirical existence. For, just as certain propositions being given true, formal logic determines what other propositions will as a consequence also be true, so given an assertion or a set of assertions to the effect that certain combinations do or do not exist in a given universe of discourse, it can determine what other assertions about existence in the same universe of discourse follow therefrom. As a matter of fact, the premisses in any argument necessarily contain certain implications in regard to existence in the particular universe of discourse to which reference is made, and the same is true of the conclusion; it is accordingly essential that the logician should make sure that the latter implications are clearly warranted by the former<sup>2</sup>.”

There is of course considerable force in Dr Venn's defence. In the last section of the preceding chapter

<sup>1</sup> *Symbolic Logic*, p. 143.

<sup>2</sup> Keynes, *Formal Logic*, p. 184.



it was stated that *All S is P* denies the existence of "*S* which is not *P*" (*S non-P*) without asserting anything as to the existence of "*S* which is *P*" (*SP*), while, on the other hand, *No S is P* denies the existence of "*S* which is *P*" (*SP*) without affirming the existence of "*S* which is not *P*" (*S non-P*). Even so, however, Dr Venn's remarks apply to Symbolic Logic rather than to Formal Logic, in the narrower and usual sense. For the traditional inferences of Formal Logic as a rule treat only of simple terms (*S*, *P*, *non-S*, *non-P*), and not of complex terms formed by combining the subject and predicate terms or their contradictories (*SP*, *S non-P*, etc.). And as regards the simple terms of Formal Logic Dr Venn has not suggested any cogent reason why the logician who is given a proposition of the form "*All X is Y*" should not refuse to say *Yes* or *No* to the question, Do you know whether the author of that proposition thereby implied that there is any *X* or *Y*? Dr Venn's formulation of the question is not altogether correct. For the logician has to deal also with other propositions than those which he himself utters, and though he knows, and may not refuse to tell, whether in uttering a proposition of the form *S is P* he does or does not imply that there are any *S* and *P*, still he may not know what other people imply or do not imply by the propositions which they utter. Dr Keynes does seem to bring the question into closer touch with Formal Logic. Dr Keynes rightly points out that the existential implication of the conclusion must be warranted by the existential implication of the premisses, if the conclusion is to be valid. *Primâ facie*, however, the ordinary rules

of logic seem to provide already for the contingency here contemplated. The rule that a term must have precisely the same meaning throughout an argument seems to insure that only such terms shall be understood to denote real things, in the conclusion, as had a like import in the premisses. But, if so, then Formal Logic need concern itself as little with the existential as with any other material aspect of the terms of given premisses. Just as Formal Logic is indifferent whether, in a given premiss, the symbol *S* represents a white thing or a black thing, so long as it retains precisely the same signification throughout the argument, so it may be equally indifferent whether the symbol or the term represents a real or an imaginary thing provided it has the same signification throughout.

Dr Keynes, however, thinks otherwise. "As a matter of fact," he tells us in the above quotation, "the premisses in any argument necessarily contain certain implications in regard to existence in the particular universe of discourse to which reference is made, and the same is true of the conclusion; it is accordingly essential that the logician should make sure that the latter implications are clearly warranted by the former." What, it may be asked, leads Dr Keynes to suspect that the existential implications of a formally valid conclusion may not be warranted by the existential implications of its premiss or premisses? It can only be, as of course it is, the belief that the several propositional forms (*A*, *E*, *I*, *O*) as such carry with them certain existential implications, and that the traditional rules of Formal Logic permit a conclusion of one propositional form to be inferred

from a premiss of another form although the existential implication of the former is not contained in the latter. And Dr Keynes is actually of opinion that many of the traditional immediate and mediate inferences are really invalid on that ground. Dr Venn, whose views on this whole question formed the starting-point for Dr Keynes's fuller elaborations, is of opinion that the older logicians must have associated extravagant existential implications with the several propositional forms, implicitly at all events, otherwise they could not have regarded all the traditional inferences as unconditionally valid. "For instance, (says Dr Venn) 'All  $Y$  is  $Z$ ,' 'All  $Y$  is  $X$ ,' would not enable us to conclude as we do, 'Therefore some  $X$  is  $Z$ ,' if the propositions had to be interpreted 'All  $Y$ , if there is any, is  $Z$ .' They must certainly be interpreted 'All  $Y$ , and there is such, is  $Z$ .' Since however no special assumption is announced in the case of *Darapti* we must fairly conclude that *all* universal affirmatives postulate the presence, so to say, of actual representatives of their subjects, and consequently of their predicates. This is all very well to begin with, but observe to what length it will lead us if we accept also other commonly received rules. For instance, are we to be allowed to contraposit propositions? If so we get at once into implications about negative terms. From 'All  $X$  is  $Y$ ' we are commonly allowed to derive 'All not- $Y$  is not- $X$ .' But this being a universal affirmative must indicate that there are instances of not- $Y$  and not- $X$ , as well as of  $Y$  and  $X$ .... Then again as regards negative propositions. From 'No  $X$  is  $Y$ ,' we infer without hesitation, 'All  $X$  is not- $Y$ .'

Consequently the *negative* proposition also must refuse merely possible subjects and claim them as existent. And since the universal negative is simply convertible, what holds of its subject must also hold of its predicate.... It really seems then as if the commonly accepted rules of Logic, when pressed to their conclusions, would force us into that extreme view, noticed above as being held by Jevons<sup>1</sup>." The extreme view to which Dr Venn refers is, "that *every* term, as well as its contradictory, must alike be claimed as represented in fact, at least when they occur as subject or predicate of a proposition<sup>2</sup>." Dr Venn criticises that view as "a reduction to absurdity." "It involves," he thinks, "not only a needless departure from all popular convention and association, but, if adhered to, it would seriously hamper us in all our logical predication. Are we never to assert anything or deny anything about *X* or *Y*, unless we are certain not only that there are things which are *X* and *Y*, but also things which are not *X* and not *Y*?... Rather than submit to such restraint we should prefer to abandon the claim to contraposition our propositions, or in any way to extract negatives out of positives. Probably also we should think it best not to hold out for the right to simply convert a universal negative proposition. Otherwise we should hardly have elbow-room left in which to assert or deny with any sense of freedom<sup>3</sup>." According to Dr Venn therefore the older logicians have always, though in most cases unwittingly, committed them-

<sup>1</sup> *Symbolic Logic*, pp. 153—155.

<sup>2</sup> *Ibid.* p. 152, and Jevons, *Pure Logic*, p. 65.

<sup>3</sup> *Symbolic Logic*, p. 155.

selves to a definite and, in fact, extreme view as to the existential implication of propositions. And while disagreeing with that extreme view, Dr Venn and Dr Keynes are at one in maintaining that a definite pronouncement on the question is indispensable in Formal Logic. They are even agreed as to the particular attitude which Formal and Symbolic Logic should adopt on this head. The view that "universal propositions should not be regarded as implying the existence of their subjects, but that particular propositions should be regarded as doing so," Dr Keynes writes, is "the only one which renders possible a completely scientific and symmetrical treatment of logical problems." "On this view *All S is P* merely denies the existence of anything that is both *S* and *not-P*; *No S is P* denies the existence of anything that is both *S* and *P*; *Some S is P* affirms the existence of something that is both *S* and *P*; *Some S is not P* affirms the existence of something that is both *S* and *not-P*. Thus *universals* are interpreted as having existentially a *negative* force, while *particulars* have an *affirmative* force<sup>1</sup>."

If the foregoing opinions of Dr Venn and Dr Keynes are correct then it must be abundantly clear how closely the existential problem touches Formal and Symbolic Logic. In any case the possibility of such an intimate connection cannot be ignored now that so many eminent logicians, whose views have considerable authority and wide currency, have raised these issues. The hint thrown out above about the adequacy of the traditional rules of Logic may already have

<sup>1</sup> *Formal Logic*, p. 187 f.



suggested that we are not altogether satisfied with those views. We propose therefore to approach the whole problem afresh in order to see whether the existential problem really does touch Formal and Symbolic Logic as closely as Dr Keynes, Dr Venn and others would have us believe it does, and also whether a more natural and less arbitrary attitude than the one they suggest may not serve the requirements of Logic equally well or even better. First we shall inquire into the actual existential implications of the four propositional forms (*A*, *E*, *I*, *O*) of common logic, in the light of the results obtained in the preceding chapter. These considerations will then suggest what the most natural and correct attitude of Formal Logic should be, provided of course that no other and more serious considerations are involved. Lastly we shall examine the supposed objections to the proposed attitude.

## § 2. THE QUANTITATIVE FORMS OF THE DIFFERENT CLASSES OF CATEGORICAL JUDGMENTS.

Having determined, in the previous chapter, the existential character of the several classes of categorical propositions independently of any ulterior considerations, the safest way to determine the existential import of the several propositional forms will be to note briefly the quantitative forms which the different kinds of propositions, enumerated in the preceding chapter, generally assume, and then trace the parallelism, if any, between the several forms of categorical propositions and their existential implication. That



is what we propose to do in this and the following sections.

As regards quantity, propositions are, of course, generally classified into Singular, Particular, and Universal. For most purposes, however, the singular form is classed with the universal. It is therefore noteworthy at the very outset that as regards existential implication Dr Venn and Dr Keynes class singular propositions with particular, not with universal, propositions.

We begin with Perceptive Judgments. These may all be treated together. For, when reduced to the subject-copula-predicate form the finer distinctions between Interjectional, Impersonal, and Demonstrative Judgments are practically effaced. Take, for example, the interjectional judgment, "Rain," or the impersonal judgment, "It is raining." Formal Logic will expand them into, "That is rain" (singular), or "Rain (*i.e.* some rain) is falling" (particular). Or take the remark "Rather noisy," uttered, say, at a political meeting. Reduced to the usual form it would read, "Some of these people are rather noisy" (particular), or "All these people are rather noisy" (universal). The impersonal judgment, "There is terror among the citizens of *P*," may be particular, "Some of the citizens of *P* are terrified," or universal, "All the citizens of *P* are terrified." Turning to Demonstrative Judgments, we commonly meet with such statements as "This is the Chancellor" (singular), "Some of these (graduates) are members of the Senate" (particular), "All these (undergraduates) are rowing men" (universal). The examples show that Perceptive Judgments may assume any of the three quantitative forms.

The same is true also of Historical Judgments, which may, to all intents and purposes, be regarded simply as past perceptive judgments. The so-called Perfect Inductions may be treated as universal historical judgments.

Affirmative Existential Judgments find their most natural expression in the singular and particular propositional forms; the universal form is comparatively rare. For instance, we say, "God exists" (singular), or "There are saints," i.e., "Some saints exist" (particular); but scarcely "All saints exist" (universal). Still, though uncommon, the universal form is also met with. For example, "All the animals described in this book are existing animals."

Contra-existential Judgments may also assume all three quantitative forms; but the particular propositional form is as rare with contra-existential judgments as the universal is with affirmative existentials. The following may serve as illustrations. "The devil does not exist" (singular), "No evil spirits exist" (universal); but scarcely "Some evil spirits do not exist" (particular). Nevertheless the particular form also is not altogether unusual. For example, "Some places described in novels do not exist."

Analytical or Explicative Judgments are normally affirmative and either universal or singular, not particular. The reason is obvious. The predicate is, *ex hypothesi*, already contained in the subject, and can therefore normally only be affirmed of it. Moreover as an analytical determinant of the subject the predicate must be true of the whole extension of its *nomen determinatum*, and so yield either a universal or a

singular proposition according as the subject is a general or singular term. There is no need of the particular propositional form for this kind of judgment. In fact the particular form may only prove misleading, because it may suggest that the predicate is true of only a part of the extension of the subject term.

Negative Judgments with Analytical Predicates are abnormal to start with, but they are not unknown. They can not be universal, only singular or particular. For if such propositions could be universal then the predicate term would cease to be an analytical determinant of the subject term, such as, *ex hypothesi*, it is. To deny an analytical determinant of just one thing or some few things supposed to belong to the extension of the subject term may be permissible as an indirect way of denying their existence, or of indicating some change in them, or of excluding them from the class to which they are wrongly supposed to belong. For example, "The fire is not burning," if meant literally, is an indirect way of saying that there is no fire. "Some houses are not inhabitable," is an indirect way of excluding some buildings from the category of houses. More often than not perhaps the predicate term of such a proposition is employed only in a relative sense.

Affirmative Judgments with Destructive Determinants for Predicate resemble the class of judgments just considered as regards the quantitative propositional forms which they generally take. They are either singular or particular, not universal. The resemblance of this to the foregoing class of propositions is easily explained. A destructive or modifying determinant

directly or indirectly contradicts some element in the intension of the *nomen determinatum*, and is practically the negation of some analytical determinant of the same *nomen determinatum*. Hence negative propositions with analytical determinants for predicate, and affirmative propositions with modifying determinants for predicate are generally mutually obvertible. Compare, for instance, "The fire is not burning" with "The fire is extinct," or "Some houses are not inhabitable" with "Some houses are uninhabitable." Hence *mutatis mutandis* the remarks made in the preceding paragraph about negative analytical propositions apply also to the class of propositions we are now considering. They cannot be universal, because if a modifying determinant could be legitimately predicated universally of its *nomen determinatum* it would cease to be a modifying determinant.

Negative propositions with modifying determinants for predicate resemble affirmative analytical judgments. The two classes of propositions are often mutually obvertible, because every modifying determinant is directly or indirectly the contradictory of some corresponding analytical determinant. Both show a decided preference for the universal propositional form. For instance, "No equiangular triangles have unequal sides (or angles)"; but scarcely "Some equilateral triangles have not unequal sides (or angles)." Nevertheless the particular form is also met with. For example, "Some saints are not hypocrites." In the last example the subject term seems to be used elliptically for "people who are regarded as saints," and a similar ellipsis may perhaps be discoverable in

all such particular negative propositions with modifying predicates. Some such ellipsis may also be observed in the case of negative analytical propositions. Just as negative analytical propositions, as we have already seen, may only be an indirect way of denying existence, so negative propositions with modifying determinants may be an indirect way of affirming existence of the subject.

The remaining varieties of conceptual judgments, namely, those with relational and those with constructive determinants for predicate, are for the most part expressed in the singular or particular propositional forms, more uncommonly, though not infrequently, also in the universal form. They are mostly singular or particular because they mostly predicate attributes and relations which may vary with different members of the same class of objects. But in the case of *propria* and invariable accidents we obtain universal judgments of the kind we are now considering.

### § 3. THE QUANTITATIVE FORM AND THE EXISTENTIAL IMPORT OF CATEGORICAL PROPOSITIONS.

Comparing the results of our inquiry into the existential import of the several kinds of categorical judgments, as summarised in the last section of the preceding chapter, with the above observations on the propositional forms in which they may be expressed, there scarcely seems to be any obvious correspondence between the quantitative forms of propositions and their existential implications, so far, at all events, as the subject within the judgment is concerned. Not that the two are altogether disconnected. One may



indeed observe certain pronounced tendencies for judgments to assume different propositional forms according as they do or do not refer directly to existing things. When the immediate reference of a judgment is to something real then the "individual" propositional forms seem the most natural. By "individual" propositional forms we mean those forms in which the reference to the individual objects of the extension of the subject term is uppermost. The singular propositional form has clearly such an individual character in most cases. And the same is largely true also of the particular propositional form, in which "some," we are generally told, means "one or more." On the other hand, when the immediate reference of a judgment is not to real things, then the stress generally falls on the meaning or the abstract relation of the intension of the terms, and the tendency is accordingly towards the abstract propositional form, of which the generic universal is the most obvious type. That there should be such diverse tendencies follows naturally enough from what has already been remarked above on the different characteristics of reality and meaning, namely, the individuality of the real, and the abstract universality of meaning.

So much seems clear. But as soon as we turn to details, and endeavour to fix precisely the relation between the existential implication of propositions and their quantitative form, we fail. The divisions cross one another, so that no line of formal demarcation is reliable. Singular and particular propositions may, and yet may not have existential implication as regards their subjects. Universal propositions may not, and



yet may have such existential import. Nor is the reason for all this far to seek. The singular and the particular propositional forms are the most obvious individual forms; but they are not the only individual propositional forms, nor yet are they always individual. Similarly the universal propositional form is the most obvious abstract form of proposition; but it is not the only abstract form, nor is it always abstract. Singular and particular propositions are sometimes abstract in character, just as, conversely, universal propositions are often individual in character. "God is perfect," "Some triangles are equiangular," for example, are both of them abstract propositions, while the so-called perfect inductions, such as "All the Apostles were Jews," though universal in form are individual (or plural) in character. Niceties of language may generally enable us to distinguish between abstract and individual judgments, and perhaps also generally between propositions which do and propositions which do not carry with them the implication of the existence of their subjects. But it seems doubtful if they lend themselves to any consistent scheme, and in any case they would be of no avail as soon as judgments are reduced to the ordinary propositional forms of Formal Logic. And as regards these forms we have just seen that one cannot permanently associate with any of them the necessary implication of the existence of their subjects. All one can say is that the particular form carries such existential implication with it more commonly than the universal form does.

#### § 4. FORMAL LOGIC AND THE EXISTENTIAL IMPORT OF CATEGORICAL PROPOSITIONS.

The conclusion to which the above considerations inevitably point is unmistakable. If Formal Logic can treat categorical propositions only in their formal aspects then it had better let alone the question of their existential import. It cannot correctly associate existential implication with any of the propositional forms as such. For if it is shown, as we have tried to show, that both universal and particular propositions sometimes do and sometimes do not carry with them the implication of the existence of their subjects then existential implication cannot rightly be permanently associated with either form as such. And the law of parsimony requires, in that case, that no inference as to the existence of the subject shall be drawn from any of the four propositional forms (*A*, *E*, *I*, *O*) as such. That certainly seems to be the most natural course to follow, unless some very cogent reasons can be urged in favour of some other course. The view just suggested may be briefly described as that of existential non-implication, and, needless to say, must be carefully distinguished from non-existential implication. It is practically the view suggested by Herbart, and one that we advocate.

According to Dr Venn's conception of the commonly accepted rules of Logic it would seem that existential non-implication is the extreme opposite of the view tacitly assumed by the older logicians. The commonly accepted rules of Logic, when pressed to their con-

clusions, force us, according to Dr Venn, into the extreme view that, when used as subject or predicate of a proposition, every term, as well as its contradictory, must alike be claimed as represented in fact. In the absence of any definite pronouncement on the question it is of course impossible to appeal with any confidence to the older logicians in support of any view on the existential problem. But the consideration that the older logicians, from Aristotle onwards, clearly state that names do not always denote real things, and that they discriminate between "is" as copula and as existential predicate, seems to afford far more support to the view of existential non-implication than to the extremely opposite view, which Dr Venn claims to have discovered at the basis of the commonly accepted rules of traditional Logic. The arguments that have forced Dr Venn to the discovery of that extreme and extravagant view in traditional Logic are the same arguments on which Dr Keynes has based his more elaborate criticism and revision of the commonly accepted rules, and shall be examined in the following sections. But we may anticipate the result of our examination so far as to assert that their arguments, though generally accepted, rest on a misapprehension; that there is no real objection to the view here advocated, and that so far from invalidating any of the commonly accepted rules of Logic this view would re-instate as unconditionally valid all the formal inferences which Dr Venn, Dr Keynes and their followers have reduced to merely conditional validity, even those which remain only conditionally valid on the view advocated by Dr Venn and Dr Keynes as "the only

one which renders possible a completely scientific and symmetrical treatment of logical problems.”

Moreover, though the whole question may be treated legitimately as extra-logical, there is really no need for Formal Logic to ignore altogether the existential import of categorical propositions. Whenever the existential implication of a proposition happens to be known, whether from collateral evidence or by the aid of such criteria as we have endeavoured to indicate in the preceding chapter, there is no reason why such knowledge should not be utilised to the full. When given judgments are reduced to symbols the symbols representing such terms as are claimed to represent real objects might be marked in some special manner. For instance, the use of capitals or italics (and sublineation in writing) might well serve the purpose. Similarly, if thought advisable, symbols definitely known not to represent (more correctly, re-represent) anything existing might also be marked in a special way. If capitals are adopted for symbols definitely claimed to represent real things, then italics (and sublineation in writing) might be used for symbols definitely known to represent nothing real, while ordinary small letters would carry with them no existential implication whatever. All the formal processes could then be worked out as usual, and at the end of the process, no matter how complex, indeed at every stage of the process, it could be seen at a glance which symbols had existential implication, which had non-existential implication, and which had existential non-implication.

The first part of our suggestion, that symbols definitely claimed to represent real objects should be

marked in some special manner, finds remarkable confirmation in a similar proposal made by Mr Whitehead on the subject of existential expression in Universal Algebra. Having explained that the letter  $i$  denotes the universe of discourse, and that consequently  $ai = a^1$ , Mr Whitehead remarks, "any term  $x$  can be written in the form  $xi$ . Now when the fact has to be expressed that  $x$  is not null, let it be modified into  $j$ ; so that  $xj$  expresses that  $x$  exists, the  $j$  being added after the symbol on which it operates.....The symbol  $xy.j$  will be taken to mean that  $j$  operates on  $xy$ , so that  $xy$  exists. Thus  $xy.j$  implies  $xj$  and  $yj$ ; but the converse does not hold<sup>2</sup>."

## § 5. OBJECTIONS AGAINST THE VIEW OF EXISTENTIAL NON-IMPLICATION.

As already remarked, the view of existential non-implication was first taught explicitly by Herbart, though he did not express it in the best possible manner. Allusion has also been made already to Ueberweg's objections against the Herbartian attitude on the existential problem. One of these objections, namely, that Herbart's theory does away with the distinction between categorical and hypothetical judgments, has already been dealt with briefly in the last section of the third chapter. Ueberweg's other objection turned on the validity of conversion, if the

<sup>1</sup> *Universal Algebra*, ch. i. p. 36.

<sup>2</sup> *Ibid.*, ch. iii. p. 83 f.

view of existential non-implication is adopted. This objection has since then been repeated and added to by Dr Venn, and further elaborated by Dr Keynes. As Dr Keynes's criticism represents the latest and most comprehensive expression of the objections raised against the view here advocated, it will be best to deal with his statement of the supposed difficulties.

With his usual thoroughness Dr Keynes has examined in detail the four most plausible attitudes possible on the existential interpretation of the four propositional forms. The view here advocated is included among those most plausible views, and has therefore been closely criticised in anticipation. The difficulties which Dr Keynes has raised<sup>1</sup> may be summarised as follows:—To let no propositional form as such imply the existence of its subject or predicate would invalidate, or, at all events, reduce to merely conditional validity all the following doctrines and modes of inference:

- I. As regards the doctrine of Opposition,
  - (1) Contradiction, and
  - (2) Contrariety;
- II. As regards Eduction,
  - (3) Conversion of *A* and *I*,
  - (4) Contraposition of *E* and *O*,
  - (5) Inversion;
- III. As regards the Syllogism,
  - (6) All the moods of Fig. 3, and
  - (7) All the moods of Fig. 4, except *AAE* and *AEO*.

<sup>1</sup> *Formal Logic*, pp. 190 f., 194, 356 ff.



This looks formidable no doubt. One should certainly pause before advocating a view that would invalidate so many familiar rules of traditional Logic. We shall therefore examine carefully the grounds of the supposed difficulties, and endeavour to show that Dr Keynes has not made out his case. This will not necessitate any very lengthy treatment, because, of the above list of inferences supposed to be invalid on the view of existential non-implication, the invalidity of the last four groups, (4) to (7), is professedly based on the invalidity of (3). We need therefore only examine the objections against the validity of (1) Contradiction, (2) Contrariety, and (3) the Conversion of *A* and *I*.

A word of explanation may be necessary at the outset before we deal with Dr Keynes's criticisms. The fact that Dr Keynes subscribes to the doctrine of empirical existence in various universes of discourse other than real existence in the world of reality—a view that we repudiate and have tried to refute above—may help to complicate matters unnecessarily. Allowance must of course be made for this difference, else the attitude of Dr Venn and Dr Keynes may appear more extreme than it really is. In what follows, however, we shall strive to obviate such possible complication by making our universe of discourse invariably the world of reality, as distinguished from that of fiction, etc., so that Dr Keynes's "empirical" existence in the universe of discourse shall, even from his own standpoint, coincide exactly with what we simply call existence or reality.

§ 6. THE VALIDITY OF THE DOCTRINES OF CONTRADICTION AND CONTRARIETY ON THE VIEW OF EXISTENTIAL NON-IMPLICATION.

(1) *Contradiction*. "The ordinary doctrine of contradiction," says Dr Keynes, "does not hold good. *All S is P*, for example, merely denies the existence of any *S*'s that are not *P*'s; *Some S is not P* merely asserts that *if* there are any *S*'s some of them are not *P*'s. In the case in which *S* does not exist in the universe of discourse we cannot affirm the falsity of either of these propositions<sup>1</sup>."

The above criticism is clearly based on a rigorously existential interpretation of propositions quite uncalled for in Formal Logic. Dr Keynes first of all assumes that, from our standpoint, *All S is P* "merely denies the existence of any *S*'s that are not *P*'s," and that *Some S is not P* "merely asserts that *if* there are any *S*'s some of them are not *P*'s," and then concludes that "in the case in which *S* does not exist in the universe of discourse we cannot affirm the falsity of either of these propositions." The conclusion may follow correctly enough from the premisses; but the premisses are false—as Dr Keynes would have seen soon enough had he taken concrete instead of merely symbolical examples. Let us suppose that our universe of discourse consists of the candidates for a certain examination, and that we are told, "All successful candidates receive scholarships," and "Some successful candidates do not receive scholarships." Would these propositions cease to be contradictory if there are no

<sup>1</sup> *Formal Logic*, p. 194.

successful candidates? Dr Keynes thinks they would not be contradictory in that case, because "we cannot affirm the falsity of either." But surely anyone who knows the meaning of the two propositions will not hesitate to say that they cannot both be true; and a reference to the regulations for that particular examination would soon show which is true and which false. But then the primary meaning of propositions is just what Dr Keynes overlooks, and what the use of barren symbols leads one to overlook. Otherwise Dr Keynes could not say, as he does, that *All S is P* "merely denies the existence of any *S*'s that are not *P*'s," and that *Some S is not P* "merely asserts that *if* there are any *S*'s some of them are not *P*'s." *All S is P* and *Some S is not P*, may mean these things, certainly; but not these *merely*, or even primarily. The existential interpretation of propositions is only a secondary rendering, not their primary meaning. What varying estimates might be formed of the existential information conveyed in a proposition may be seen from the very opposite views of Bain and Brentano. While Brentano<sup>1</sup> and his followers would have us paraphrase all propositions without distinction into existential propositions, Bain holds that even existential propositions should be paraphrased into non-existential propositions expressing co-existence or sequence<sup>2</sup>. Be that as it may, there is little room for doubt that Dr Venn's and Dr Keynes's existential renderings of ordinary propositions are only inferences from these propositions. Now inferences are not always the exact

<sup>1</sup> *Psychologie*, ch. vii.

<sup>2</sup> *Deductive Logic*, p. 107.

equivalents of their premisses. The inferences from contradictory propositions, nay, the inferences from contrary propositions even, need not yet therefore be contradictory themselves. Compare, for instance, the relation of  $A$  to  $E$  with that between their subcontraries,  $I$  and  $O$ . Hence to show that the inferences from two given propositions are not contradictory, is not yet, by a long way, the same thing as showing that the original propositions themselves are not contradictory or even contrary.

One may go even further than that. It may be shown that, even from the standpoint of existential non-implication, contradictory propositions still remain contradictory after they have been rendered into existential propositions—provided we extract all the existential information which they implicitly contain, and do not deliberately ignore any part of it. The truth is that universal propositions convey existential information of two kinds, namely, a categorical denial, and a hypothetical assertion. On the other hand, particular propositions do not always convey existential information of a categorical character, and the existential implication that can be permanently associated with them must be of a hypothetical character only. Now it is only by ignoring the hypothetical portion of the existential implication of universal propositions that they can be conceived as ever ceasing to be contradictorily opposed to the particular propositions of opposite quality, which are usually regarded as their contradictories. But such suppression of a part of the meaning of propositions is illegitimate. Just as Logic insists on the invalidity of exceeding the information

contained in given premisses, so it must insist on the invalidity of deliberately ignoring a part of that information, especially so when the part suppressed is the more relevant part. For instance, *All S is P* denies that there are *S*'s which are not *P*'s; but it does not *merely* deny this. *All S is P* tells us further that "If there are any *S*'s they must all be *P*'s." And this second (hypothetical) item of existential information is not only more obvious than the first (*i.e.*, the categorical denial of the existence of *S non-P*) but even the more important from the point of view of Formal Logic. For Formal Logic, as distinguished from Symbolic Logic, does not usually concern itself with complex terms, but only with the simple terms of given propositions and their contradictories. Now although, on the basis of existential non-implication, *Some S is not P* "merely asserts that *if* there are any *S*'s some of them are not *P*'s," and therefore, in the case of the non-existence of *S*, does not contradict the categorical denial of the existence of *S non-P*, which forms one part of the existential implication of *All S is P*, yet it obviously does contradict the hypothetical part, whether *S* exist or not. Concrete examples may help to make this clearer.

*A and O, when S does not exist.* Take the example given above. "All successful candidates receive scholarships" and "Some successful candidates do not receive scholarships," supposing there are no successful candidates. The universal proposition denies the existence of successful candidates who do not receive scholarships, and asserts that if there are any successful candidates then they must all receive scholarships.



Now this latter assertion is clearly contradicted, in any case, by "Some successful candidates do not receive scholarships," which implies existentially that "if there are any successful candidates then some of them do not (or need not) receive scholarships." The two hypothetical statements cannot both be true, and, as already suggested, a reference to the regulations for the particular examination must show which of them is true, and which is false.

*E and I, when S does not exist.* We may borrow an illustration from Dr Keynes<sup>1</sup>, though, needless to say, he uses it for a totally different purpose. "Take the propositions, No physically incapacitated Frenchmen are bound to perform military service, Some physically incapacitated Frenchmen are bound to perform military service," and let us suppose that there are no physically incapacitated Frenchmen. These propositions are contradictory nevertheless. For the implication of the universal proposition is, "if there are any physically incapacitated Frenchmen then not one of them is bound to perform military service," and this is, in any case, contradicted by the implication of the particular proposition, "if there are any physically incapacitated Frenchmen then some of them are bound to perform military service." Reference to the laws regulating conscription in France will show which of the two statements is true and which is false, quite independently of the existence or non-existence of physically incapacitated Frenchmen.

(2) *Contrariety.* "The ordinary doctrine of contrariety," says Dr Keynes, "does not hold good. For if

<sup>1</sup> *Formal Logic*, p. 193 n.



there is no implication of the existence of the subject in universal propositions we are not actually precluded from asserting together two propositions that are ordinarily given as contraries. *All S is P* merely denies that there are any *S not-P*'s, *No S is P* that there are any *SP*'s. We may, therefore, without inconsistency affirm both *All S is P* and *No S is P*; but this is virtually to deny the existence of *S*<sup>1</sup>."

The above objection, as Dr Keynes makes clear, is not peculiar to the view of existential non-implication, but affects equally the view to which Dr Venn and he subscribe. To that extent, therefore, we might pass it by altogether. If Dr Keynes is satisfied with his view in spite of its invalidating the doctrine of contrariety, we might claim a like privilege. From what precedes, however, it will have been gathered already that we are by no means prepared to accept the above verdict against the validity of the doctrine of contrariety. We would not in any case consent to the elimination of the doctrine of contrariety from Formal Logic if more convincing arguments cannot be adduced than those which Dr Venn and Dr Keynes have urged against it.

The view that "*All S is P* merely denies that there are any *S not-P*'s, *No S is P* that there are any *SP*'s" is, as already explained, only half the truth. If these propositions *merely* did that and no more, then one might possibly affirm them both "without inconsistency." But we have seen that even existentially they convey something more than these bare denials. *All S is P* implies that "if there are any *S*'s they must

<sup>1</sup> *Formal Logic*, p. 194.

all be *P*'s," while *No S is P* implies that "if there are any *S*'s not one of them can be *P*." And these are clearly contrary: both cannot be true, though both may be false—whether *S* does or does not exist.

Dr Keynes is evidently at a loss to find concrete examples in support of his contention that what are usually described as contrary propositions may be asserted together without inconsistency, though that would be virtually to deny the existence of their common subject. Dr Keynes does indeed defend his neglect of concrete examples, pleading that he has "intentionally relied mainly on symbolic examples, because they have the great advantage of avoiding false issues, while they are at the same time quite sufficient for their purpose<sup>1</sup>." We do not altogether agree with the last clause of the apology because, as we have already had occasion to remark, the use of barren symbols may help one to overlook an important part of the meaning which, especially in the case of contrary opposition, may be very relevant to the question at issue. In the case of singular propositions, for instance, the difference between contrary and contradictory opposition can not be symbolically represented at all. However, when Dr Keynes does try to furnish a concrete example he does not seem particularly fortunate in his choice. "The following," Dr Keynes thinks, "may perhaps suffice to illustrate the particular point now at issue: 'An honest miller has a golden thumb'; 'Well, I am sure that no miller, honest or otherwise, has a golden thumb.' These two propositions are in the form of what would ordinarily be called

<sup>1</sup> *Formal Logic*, p. 195 n.

contraries ; but taken together they may quite naturally be interpreted as meaning that no such person can be found as an honest miller. The first of them would indeed probably be intended to be supplemented by the second, and so to carry inferentially the denial of the existence of its subject<sup>1</sup>." The illustration is not at all convincing, and seems almost irrelevant. The first proposition, "An honest miller has a golden thumb," will of itself convey an implicit denial of the existence of an honest miller. Of course there is a link missing to properly justify the implied inference. But whether the missing link is correctly supplied by Dr Keynes's second proposition seems more than doubtful. The following is surely a truer representation of the complete argument involved in the above illustration. "An honest miller has a golden thumb ; of course no living man can have a golden thumb ; therefore there is no honest miller living." This is simply a valid syllogism in Fig. 2<sup>2</sup>, and the two premisses are anything but contrary. If we substitute "living miller" for "living man," in the supplied premiss, we still get precisely the same syllogism. In fact Dr Keynes only avoids the valid syllogism by introducing the saving clause, "honest or otherwise," which gives to the second proposition of Dr Keynes a specious appearance of being the contrary of the first. But the interpolation of that saving clause seems very arbitrary and superfluous.

<sup>1</sup> *loc. cit.*

<sup>2</sup> The argument may be reduced to the form of *Camestres* or *Cesare* indifferently, though *Camestres* seems the more natural of the two.

Nor is Dr Keynes more fortunate when he invokes the aid of Mrs Ladd Franklin and borrows the "good example" contained in the following quotation from her. "*All  $x$  is  $y$ , No  $x$  is  $y$ ,*" writes Mrs Ladd Franklin, "assert together that  $x$  is neither  $y$  nor *not- $y$* , and hence that there is no  $x$ . It is common among logicians to say that two such propositions are incompatible; but that is not true, they are simply together incompatible with the existence of  $x$ . When the schoolboy has proved that the meeting point of two lines is not on the right of a certain transversal and that it is not on the left of it, we do not tell him that his propositions are incompatible and that one or other of them must be false, but we allow him to draw the natural conclusion that there is no meeting point, or that the lines are parallel<sup>1</sup>." The supposed illustration so far from being "good" seems scarcely relevant. "When the schoolboy has proved that the meeting point of two lines is not on the right of a certain transversal and that it is not on the left of it, we do not tell him that his propositions are incompatible." Of course not. They are not incompatible. But what does that prove? The possible compatibility of what are commonly called contrary propositions? Certainly not. The two propositions of Mrs Ladd Franklin's schoolboy have simply no resemblance to what logicians generally call contrary propositions. The example is good as an illustration of a perfectly valid destructive hypothetico-categorical enthymeme of the first order; but as to the supposed compatibility of so-called contrary propositions it illustrates just

<sup>1</sup> *Mind*, 1890, p. 77 n., quoted by Dr Keynes, *Formal Logic*, p. 195 n.

nothing. Fully expressed the reasoning implied in the above example may be stated in the following destructive hypothetico-categorical syllogism.

If the two straight lines (say,  $AB$ ,  $CD$ ) meet,  
they must meet either on the right of the  
transversal (say,  $EF$ ) or on the left of it;  
But the two straight lines meet neither on the  
right of the transversal nor on the left of it;  
Therefore the two straight lines do not meet  
at all.

Even if we go out of our way to please Mrs Ladd Franklin, and introduce the term "meeting point," we still obtain the same kind of syllogism.

If the two straight lines meet, their meeting  
point is either on the right of the transversal  
or on the left of it;  
But their meeting point is neither on the right  
of the transversal nor on the left of it;  
Therefore the two straight lines do not meet.

Apparently Mrs Ladd Franklin would have us believe that the two propositions of the minor premiss, namely, "the meeting point is not on the right of the transversal" and "the meeting point is not on the left of the transversal," are compatible contrary propositions. Compatible they are; but not what logicians commonly call contrary propositions. The real contraries corresponding to the propositions in Mrs Ladd Franklin's example would be the following: "The meeting point of the two straight lines is on the right of the transversal," "The meeting point of the (same) two straight lines is on the left of the (same) transversal." These



are singular contrary propositions, though, being singular, their contrariety can not be formally or symbolically indicated. But the propositions which Mrs Ladd Franklin gives as an example no logician would call contraries. They are simply the contradictories of the two real contraries respectively. And the contradictories of two contrary propositions are usually called subcontraries. But subcontraries are generally treated in Logic as perfectly compatible one with the other.

We conclude, then, that Dr Keynes has not made out his case, and that to let no proposition imply the existence of either its subject or predicate does not invalidate the doctrines of contradiction and contrariety.

The attitude here maintained, namely, that the view of existential non-implication does not affect in any way the validity of the ordinary doctrine of opposition, is confirmed also by general considerations based on the nature and claims of a true proposition as explained in the third chapter. If the logical truth of a proposition turns on the meaning and objectivity of its terms, and not necessarily on the realities which they may or may not denote, then all relations of compatibility and incompatibility between such propositions, and therefore the whole doctrine of opposition, will also depend on the mere meaning and objectivity of the terms involved, and not necessarily on the existence of things corresponding to these terms. Only in the case of affirmative and negative existential propositions, and their equivalents, does the question of the existence of their subjects or predicates



affect the truth of the propositions, and therefore also their mutual relations. But these propositions cannot possibly be used to support any theory as to the possible compatibility of what are usually called contradictory and contrary propositions assuming the non-existence of the subject. For the very truth, and therefore also the mutual relationship, of such propositions turns already *ab initio* on the existence or non-existence of the subject.

§ 7. THE VALIDITY OF THE CONVERSION OF AFFIRMATIVE CATEGORICAL PROPOSITIONS ON THE VIEW OF EXISTENTIAL NON-IMPLICATION.

(3) *The Conversion of A and I.* "The conversion of *A*," says Dr Keynes, "is not valid; nor is that of *I*. For *Some P is S* implies that if there is any *P* there is also some *S*; but this is not implied either in *All S is P* or in *Some S is P*<sup>1</sup>." This is practically also Ueberweg's criticism of Herbart's view of existential non-implication<sup>2</sup>. In fact Herbart himself has partly suggested this criticism against his own view<sup>3</sup>. The supposed difficulty, which seems to have been anticipated already by Leibniz<sup>4</sup>, has been repeated times without number, and has hitherto remained unchallenged. Possibly Herbart's seeming admission of the

<sup>1</sup> *Formal Logic*, p. 190.

<sup>2</sup> Ueberweg, *Logik*, § 85.

<sup>3</sup> *Lehrbuch zur Einleitung in die Philosophie*, § 59 Anm.

<sup>4</sup> See L. Couturat, *La Logique de Leibniz d'après des documents inédits*, p. 359. The example used by Leibniz is the following: "Omnis ridens est homo, ergo quidam homo est ridens; nam prior vera est etiam si nullus homo rideat; at posterior vera non est, nisi aliquis homo actu rideat."

objection may have helped to perpetuate the superstition, by shielding it from closer examination. At all events the supposed difficulty has no real foundation. The assumption that "*Some P is S* implies that if there is any *P* there is also some *S*," which is put forward as the ground of the invalidity of the conversion of *A* and *I* propositions, is unwarranted. Let us take a concrete example. "Some things that children fear are ghosts." Does this proposition imply that if there is anything that children fear then there are also ghosts? Surely one may legitimately make such an assertion while believing that there are things that children fear, and yet absolutely disbelieving in the existence of ghosts. In fact the above proposition might very well be used in conjunction with an express denial of the existence of ghosts in order to prove that, while some things that children fear are real, they are also afraid of things that do not exist, but are merely imaginary. The following syllogism may illustrate this.

No ghosts are real ;

Some things that children fear are ghosts ;

Therefore some things that children fear are  
not real.

The above erroneous interpretation of *I* propositions is due to a confusion with the hypothetical existential rendering of *A* propositions. *All S is P* does imply that if there are any *S*'s there are, or must be, also some *P*'s; but *Some S is P* does not imply that much. Strange that logicians who ignore the hypothetical existential implication of *All S is P*, holding that it merely denies the existence of *S non-P*, should yet

discover and accentuate it in *Some S is P*. The truth is that particular propositions, as traditional Logic has always maintained, are in every way less informing than the corresponding universal propositions. And this holds good also of their existential implications. *All S is P*, besides denying the existence of *S non-P*, also implies that if there are any *S*'s there must also be *P*'s. *Some S is P* only implies that if there are any *S*'s there may be *P*'s. This interpretation, which is also to some extent supported by Mr Bradley<sup>1</sup>, brings out the subalternation of *I* to *A* propositions even existentially. So interpreted, *Some S is P* does not imply necessarily that if there are any *S*'s then there are also *P*'s. Hence, when we are told *Some S is P*, and, further, that there are *S*'s, we can still not infer that there are also *P*'s, unless we are definitely informed that the predication was meant of the *existing S*. The concrete example given above shows how *Some S is P* may be true, *S* may exist, and yet *P* need not exist<sup>2</sup>.

<sup>1</sup> *Principles of Logic*, p. 197. "The particular judgment, in the end and really, we found to be nothing but a hypothetical in which the conditions remained imperfect. In the problematic form of judgment we once again encounter the particular. The one is the other under a disguise.... 'Some *S* is *P*' is the same as the judgment '*S* may be *P*'."

<sup>2</sup> The above explanation, I venture to think, may throw some light on Herbart's somewhat obscure solution of the conversion difficulty. Herbart justifies the inference of "Something terrible is the wrath of the Homeric gods" from "The wrath of the Homeric gods is terrible," in spite of the seemingly unwarranted implication of the former that "if something terrible exists then the wrath of the Homeric gods exists," by saying that "the extension of the concept 'terrible' includes everything that is thought by that concept, be it real or fabulous" (*Einkl. z. Phil.*, § 59 Anm.). Had Herbart added that since "terrible" includes the merely fabulous as well as the real

The same conclusion may be expressed in yet another way. We may admit that the existence of the subject of all affirmative propositions, particular as well as universal, carries with it the implication of the existence of the predicate. But in that case we must clearly distinguish between the actual subject and the mere subject-term<sup>1</sup>. In the case of the universal affirmative proposition it makes no difference whether we are told that "*S*" exists or that "*All S*" exist—both come to the same thing, so far, at all events, as the consequent existence of *P* is concerned. But in the case of a particular affirmative proposition it makes all the difference whether we are simply told that "*S*" exists or the "*Some S*," which formed the actual subject of the predication, exist. Here the existence of things corresponding to the mere subject-term carries with it no necessary implication as regards the existence of things denoted by the predicate-term. Only the existence of the "*Some S*," which form the actual subject of the predication, implies also the existence of things corresponding to the predicate. Whether the subject of an *I* proposition is or is not meant to denote something real can only be known either from independent evi-

therefore one has no right to assume that "something terrible," which forms the subject of the predication in the converse, was meant to denote the real rather than the fabulous, then that would practically have been the same as the argument we have employed above. If that is really what Herbart meant then there is more in his remark than Ueberweg seems to find in it when he tells us that Herbart knew better how to state the difficulty than how to solve it (*Logik*, § 85).

<sup>1</sup> Cf. the similar distinction which Miss Jones makes between a term and a term-name (*Introduction to General Logic*, p. 10), and the criticism of Dr Keynes (*Formal Logic*, p. 60 n.).

dence or by the aid of such indications as have been considered in the last chapter. Without some such special indications a proposition of the form *Some S is P* does not necessarily imply that if there are any *S* there are also some *P*.

That being so, the objection against the conversion of *A* and *I* propositions, on the view of existential non-implication, falls away. *All S is P* and *Some S is P*, it is true, do not imply that "if there is any *P* there is also some *S*." But then *Some P is S* does not necessarily imply that either. There can, therefore, be no objection, on that score, against inferring, by conversion, *Some P is S* from *All S is P* or *Some S is P*.

With the vindication of Conversion all the remaining supposed illegitimate inferences connected with it are also vindicated. We may, therefore, conclude that to let no propositional form as such necessarily imply the existence of either its subject or its predicate in no way affects the validity of any of the traditional inferences of Logic.

And Dr Venn seems hopelessly wrong when he sees in the commonly accepted rules of Logic an implicit assumption that every term of a proposition as well as its contradictory must alike be claimed as represented in fact. For we have now seen that the commonly accepted rules of Logic are just as valid on the view of existential non-implication as on that extreme view which Dr Venn has discovered, and so much deplored, in the older Logic. Moreover the facts already alluded to, namely, that the older logicians explicitly recognised that not all terms denote real things, and their differentiation between "is" as copula and as existential



predicate, lead one to suspect that they rather inclined towards the view here advocated, which is the very opposite of that extreme view with which Dr Venn credits them.

At all events we have examined all the objections against the view of existential non-implication in Formal Logic, and we see no reason to deviate from the suggestions made in § 4 above.

### § 8. SYMBOLIC LOGIC AND THE PROBLEM OF THE EXISTENTIAL IMPORT OF CATEGORICAL PREDICATION.

At first sight it would seem that what is true of Formal Logic should be at least as true of Symbolic Logic, which is even more formal than Formal Logic. The whole question of existential import should, accordingly, be of no vital concern to Symbolic Logic. But that is not so. The problem concerns Symbolic Logic much more than it concerns Formal Logic, as may be suspected from the fact that it was first brought into prominence in connection with Symbolic Logic. If the view of existential non-implication be correct, as we maintain it is, then the reason for this seeming anomaly is not far to seek. Formal Logic treats only of simple terms (*i.e.*, of  $S$ ,  $P$ ,  $non-S$ ,  $non-P$  singly). Now as regards the simple terms of a proposition, and their contradictories, no propositional form carries with it permanently any existential implication. Hence Formal Logic, even if it does not inquire at all into the question of the existential import of propositions, and simply abstains from making any assumptions



whatever as regards existence, will still be on the safe side—since in any case that is, on our view, the final outcome of such an inquiry. Symbolic Logic, on the other hand, treats of complex terms as well as of simple ones—in fact more often of complex than of simple terms. And in regard to complex terms the universal propositional forms, as we have seen, certainly carry with them definite existential import, though only of a negative character, which Symbolic Logic does utilise. In other words, although the propositions *All S is P*, *No S is P*, *Some S is P*, *Some S is not P*, do not necessarily imply the existence or the non-existence of *S*, or *P*, or *non-S*, or *non-P*, the simple terms with which alone Formal Logic is concerned, yet *All S is P* and *No S is P* do imply the non-existence of the complex terms *S non-P* and *SP* respectively, of which Symbolic Logic treats. Symbolic Logic is thus, *primâ facie* at all events, confronted with a problem which it may not ignore. To this extent we may accordingly endorse Dr Venn's remarks quoted in § 1 (p. 111), above.

#### § 9. SYMBOLIC LOGIC AND THE VIEW OF EXISTENTIAL NON-IMPLICATION.

We have seen that, considered strictly and impartially, none of the four propositional forms, *A*, *E*, *I* and *O*, has as such any positive existential import of a categorical character, while the two universal forms, *A* and *E*, are the only ones that have negative existential import of a categorical character, inasmuch as they deny the existence of *S non-P* and *SP* respectively. In the absence, therefore, of any specially cogent reasons to the contrary, Symbolic

Logic should, like Formal Logic, adopt the view of existential non-implication, *plus* that of non-existential implication as regards  $SP$  and  $S \text{ non-}P$  in the case of  $SeP$  and  $SaP$  respectively. *Primâ facie* that seems the most natural and the most legitimate attitude for Symbolic Logic to adopt.

Dr Venn, however, thinks differently. So far as universal propositions are concerned there is of course no difference between the view of Dr Venn and that maintained by us. The disagreement turns solely on the existential interpretation of particular propositions. "Does the Particular Proposition give us any assurance of the existence of its subject and predicate? It seems clear to me (says Dr Venn) that we must in this respect put it upon a different footing from the Universal Affirmative, and say that it does give such an assurance: on the ground that if it did not do so it would have absolutely nothing certain to tell us. Whatever shade of doubt may hang over the existence of  $x$  and  $y$  in 'All  $x$  is  $y$ ,' one result at any rate is certain, viz. that we thus extinguish  $x\bar{y}$ ; and from this we may deduce the hypothetical affirmative form<sup>1</sup>. But when the proposition 'Some  $x$  is  $y$ ' comes to be affected in the same way, by a similar interpretation, it is paralyzed at once. It can extinguish no class and establish no class, and has therefore no categorical information to give<sup>2</sup>." Dr Venn surely can not really mean that "Some  $x$  is  $y$ ," without existential implication, "would have absolutely nothing certain to tell

<sup>1</sup> It would be at least as legitimate to deduce the extinction of  $x\bar{y}$  from the hypothetical affirmative form, which seems to have priority.

<sup>2</sup> *Symbolic Logic*, p. 180.

us." For, even when it means, as it sometimes does mean, simply "*S may be P*," it certainly contradicts "*S cannot be P*" which obviously has something certain to tell us. But if by having nothing certain to tell us Dr Venn means, as indeed he seems to mean, "nothing existentially categorical" then, of course, that is the very question at issue, and cannot be decided in that peremptory manner. First to single out the categorical existential information of propositions as the only kind of information that lends itself to the treatment of Symbolic Logic, as Dr Venn conceives it, and then to assert that particular propositions "would have nothing certain to tell us" unless they conveyed an assurance of the existence of their subjects and predicates, is to assume the very point in dispute, namely, whether the particular propositional forms have any categorical existential implication at all. We have endeavoured to show that they have no such necessary implication. And if that is so what right has Symbolic Logic to assert dogmatically that "*Some S is P*" and "*Some S is not P*" shall be invariably equivalent to "*There is SP*" and "*There is S $\bar{P}$* "? Such an interpretation of particular propositions rests, as we have tried to show<sup>1</sup>, on two distinct assumptions, namely, (1) that the subject term denotes existing things, and (2) that the predication is made of these existing things. Yet there is no positive guarantee for either assumption in the particular propositional form as such.

The expressions  $SP > 0$  and  $S\bar{P} > 0$  certainly fit very well into Dr Venn's scheme of symbolic expressions, and Dr Venn is perfectly justified in introducing

<sup>1</sup> See p. 145 f.

these forms to represent the two existential propositions "*There is  $SP$* " and "*There is  $S\bar{P}$* ." But that is no reason why "*Some  $S$  is  $P$* " and "*Some  $S$  is not  $P$* " should be invariably identified with these existential propositions and their symbolic expressions. Dr Venn pleads that only when so interpreted do "*Some  $S$  is  $P$* " and "*Some  $S$  is not  $P$* " become the exact contradictories of "*No  $S$  is  $P$* " and "*All  $S$  is  $P$* ," respectively, and that otherwise the doctrine of contradiction does not hold good. In reality that only proves the inadequacy of his rendering of universal propositions, which ignores part of their meaning. Two contradictory propositions must, between them, cover a certain amount of ground, and if one of them is stripped of part of its meaning the other must receive some additional meaning in compensation, if they are still to remain contradictory. By making  $SaP$  and  $SeP$  merely equivalent to  $S\bar{P} = 0$  and  $SP = 0$ , respectively, Dr Venn is compelled to make  $SoP$  and  $SiP$  tantamount to  $S\bar{P} > 0$  and  $SP > 0$ , in order to save the contradictory relationship. But let the universal propositions receive their full measure of meaning and then there will be no need to give the particular propositions more than is legitimately due to them. "*All  $S$  is  $P$ , if it is anything at all*," is sufficiently contradicted by "*Some  $S$  need not be  $P$* ," and "*No  $S$  is  $P$ , whatever else it may be*," is sufficiently contradicted by "*Some  $S$  may be  $P$* ." What  $SaP$  and  $SeP$  really express severally is the *necessity* and the *impossibility* of  $S$  being  $P$ . This immediate meaning of  $SaP$  and  $SeP$  involves inferentially the non-existence of  $S\bar{P}$  and  $SP$  respectively. But in order to contradict the universal propositions it

is not necessary to contradict their less significant indirect implications, it is enough if their fullest immediate signification is contradicted. And for that purpose  $SiP$  and  $SoP$  need mean no more than " $S$  may be  $P$ " and " $S$  need not be  $P$ ," not necessarily " $There$  is  $SP$ " and " $There$  is  $S\bar{P}$ ."

The truth is that Dr Venn's scheme of symbolical expressions is professedly existential, and, strictly speaking, it is only existential and contra-existential propositions that it represents adequately. It so happens that universal propositions invariably imply certain contra-existentials, and so lend themselves to Dr Venn's method. On the other hand, the particular propositions of ordinary Logic do not lend themselves to Dr Venn's method, simply because they do not necessarily and invariably imply either existential or contra-existential propositions. Hence, however useful and suitable Dr Venn's method may be for the treatment of complicated problems and broad generalisations involving only universal propositions or particular existential propositions, it does not really provide for the treatment of the ordinary particular propositions of common Logic. Dr Venn might, of course, have declined altogether to take any cognisance of such particular propositions, seeing that he esteems them so lightly. "Particular propositions, in their common acceptance, are of a somewhat temporary and unscientific character<sup>1</sup>," and therefore, it would seem, scarcely deserve the trouble they occasion in a scheme of symbolic expressions. "Most symbolists, I think (Dr Venn remarks), however satisfactory they may consider their own

<sup>1</sup> *Symbolic Logic*, p. 189.



solution of the difficulty to be, have been practically agreed in having comparatively little to do with them in the course of their work. And quite rightly so. Indeed I almost question whether, if the Symbolic Logic had been developed before the Aristotelian had acquired so firm a hold upon us, such propositions would have been admitted at all<sup>1</sup>." If so, Dr Venn might have stated explicitly that the particular propositions of common Logic were of next to no use in Symbolic Logic, as he conceived it, and excluded them from his treatment altogether. In fact Dr Venn's method would have lost none of its value, and would have gained in accuracy of description, had he explained that it was in reality adapted adequately only to the treatment of existential and contra-existential propositions, and of the ordinary universal propositions of common Logic only in so far as they involved contra-existentials. That would have been a very different thing from making the universal propositions merely mean the same as the contra-existentials which they imply, and invariably interpreting particular propositions as equivalent to affirmative existentials. So far as the four propositional forms are concerned, Boole's method is better adapted to their accurate treatment than is Dr Venn's method, though the latter is a very useful supplement to the former in the treatment of universal propositions and all kinds of existentials and contra-existentials. And Boole's method carries with it no existential assumptions, not even as regards particular propositions. It must be borne in mind that we are not here concerned with the question as

<sup>1</sup> *Symbolic Logic*, p. 189.



to what kind of symbolic scheme or what kind of classification of propositions may be absolutely the most suitable for the purposes of Symbolic Logic. We do not wish to imply that the adoption of the familiar fourfold scheme of propositions (*A*, *E*, *I* and *O*) is absolutely necessary or advisable in Symbolic Logic. What we do maintain is that in so far as the four propositional forms are used in Symbolic Logic there is absolutely no need to give them any positive existential implication. We maintain that they can be adequately expressed, in symbols such as those suggested by Boole supplemented to some extent by those of Dr Venn, in such a manner that the universal propositional forms shall not lose, nor the particular forms gain unnecessarily any element of meaning or implication. The following table seems quite adequate for the purpose indicated.

<i>All S is P</i> :	$S = \frac{0}{0}P$ , involving also $S\bar{P} = 0$ ;
<i>No S is P</i> :	$S = \frac{0}{0}\bar{P}$ , involving also $SP = 0$ ;
<i>Some S is P</i> :	$\frac{0}{0}S = \frac{0}{0}P$ ;
<i>Some S is not P</i> :	$\frac{0}{0}S = \frac{0}{0}\bar{P}$ .

Just as when *S* is definitely known to exist then, and only then, we may add yet a third expression to each universal form, namely,  $SP > 0$  and  $S\bar{P} > 0$  to "*All S is P*" and "*No S is P*" respectively, so in the case of the particular forms when it is definitely known that *S* exists, and that the predication is made of the existing *S*, then, but only then, we may add a second expression to each, namely,  $SP > 0$  and  $S\bar{P} > 0$  to "*Some S is P*" and "*Some S is not P*" respectively.

In regard to the symbolic expressions for the

universal propositions in the above scheme Dr Venn regards the two expressions for the universal affirmative as "exactly equivalent and convertible<sup>1</sup>"; the only difference he finds between the second and first "is merely the distinction between the negative and its corresponding positive form<sup>2</sup>." Presumably that is also his view on the relationship between the two symbolic expressions for the universal negative. But the view is not altogether right. The relation between the two alternative expressions is not altogether like, say, that between a proposition and its obverse. A proposition and its obverse, though one is positive and the other negative, are mutually obvertible and exactly equivalent. But  $S\bar{P} = 0$  and  $S = \frac{0}{0}P$  are not reciprocal equivalents, nor are  $SP = 0$  and  $S = \frac{0}{0}\bar{P}$ . The first of each pair, it is true, is implied in the second (by the Law of Contradiction), but it does not necessarily imply the second. The following pairs of propositions may serve as concrete illustrations:

A. "All spirits are good,"  $S = \frac{0}{0}P$ , involving  $S\bar{P} = 0$ ;

"There are no evil spirits,"  $S\bar{P} = 0$ .

E. "Angels are not things that people believe in,"  $S = \frac{0}{0}\bar{P}$ , involving  $SP = 0$ .

"Angels that people believe in do not exist,"  $SP = 0$ .

The first of each pair involves the second; but one may accept the second without the first. The reason is this. The second (contra-existential) proposition in

<sup>1</sup> *Symbolic Logic*, p. 178.

<sup>2</sup> *Ibid.*

each pair is only an inference from the first, not identical with it. Now although given a certain premiss a certain conclusion must needs follow, yet the same conclusion may follow also from different premisses. Hence the acceptance of a conclusion does not necessarily imply the acceptance of any one premiss.  $S\bar{P} = 0$  is inevitably implied in  $S = \frac{0}{0}P$ ; but it follows as inevitably from  $S = 0$ . Similarly  $SP = 0$  may be deduced from  $S = \frac{0}{0}\bar{P}$ ; but also from  $S = 0$ . All this of course bears out our contention about the inadequacy of the merely existential (or rather *contra-existential*) interpretation of universal propositions, and of basing on it any attack against the doctrines of contrariety and contradiction. However, so far as Symbolic Logic is concerned this kind of rendering of *universal* propositions does not seem to involve any serious consequences, even if used alone, while it is a helpful supplement to other methods.

In the case of *particular* propositions the consequence of Dr Venn's existential interpretation is more serious. Not only is the rendering of particular propositions into affirmative existentials unwarranted in any case, but it may even obstruct logical inference, as a concrete example may show. Let us suppose we are given the following three statements, and asked to draw the inference to which they point.

- (1) Some things that people fear ( $x$ ) are ghosts ( $y$ );
- (2) All ghosts are disembodied spirits ( $z$ );
- (3) No disembodied spirits exist.

According to Dr Venn's method of symbolical inter-

pretation these statements must be rendered as follows :

$$(1) \quad xy > 0; \quad (2) \quad y\bar{z} = 0; \quad (3) \quad z = 0.$$

Here the first symbolic expression obviously contradicts the inevitable conclusion of the other two, and impedes correct reasoning. For if  $z = 0$  then  $yz = 0$ . Now  $y$  can only be either  $yz$  or  $y\bar{z}$ ; but  $yz = 0$ , and according to the second premiss  $y\bar{z} = 0$  also. Therefore  $y = 0$ . And if  $y = 0$  then  $xy = 0$ . But this is contradicted by the first premiss,  $xy > 0$ . Needless to say there is no such inner contradiction contained in the original premisses. The contradiction is caused entirely by the unwarranted assumption that "*Some x is y*" implies that "*There is xy*," which prevents us from drawing the conclusion to which we are fully entitled, and which may be easily obtained syllogistically. But if we put aside the unwarranted existential implication, and use the table of symbolical expressions given above (p. 155), then the right inference follows easily and clearly. For in that case the three premisses are represented thus :

$$\begin{aligned} (1) \quad & \frac{0}{0}x = \frac{0}{0}y; \\ (2) \quad & y = \frac{0}{0}z, \text{ involving } y\bar{z} = 0; \\ (3) \quad & z = 0. \end{aligned}$$

Here since  $y = \frac{0}{0}z$ , and  $\frac{0}{0}x = \frac{0}{0}y$ , therefore  $\frac{0}{0}x = \frac{0}{0}z$ . But  $z = 0$ . Therefore  $\frac{0}{0}x = 0$ .

The same conclusion may also be obtained in yet another way.  $y\bar{z} = 0$ , and, since  $z = 0$ ,  $yz = 0$  also. Therefore  $y = 0$ . Hence  $\frac{0}{0}x = 0$ . And that is the correct inference, viz. "Some things that people fear do not exist."

It seems therefore that in some cases, at all events, the view of existential non-implication is better adapted to the needs of Symbolic Logic than is the view advocated by Dr Venn, for it leads to true results where the latter method would only mislead. The view of existential non-implication is also, as we have endeavoured to show, the most natural and correct view, and Dr Venn has not shown any adequate reason why Symbolic Logic should arbitrarily adopt any convention at variance with it. We maintain, accordingly, that it is best for Symbolic Logic to explicitly adopt the view of existential non-implication, *plus* that of non-existential implication in regard to  $S\bar{P}$  and  $SP$  in the case of  $SaP$  and  $SeP$  respectively.

Needless to say, the above view does not for a moment imply that we are to ignore any existential information that may be known independently. The existence or non-existence of any given term, if definitely known, may be noted explicitly, either according to Dr Venn's method of notation ( $x > 0$ ,  $x = 0$ ), or in accordance with the suggestions made in § 4 (p. 128) above. On the whole Dr Venn's method seems to be the most suitable for Symbolic Logic, and might even be used in Formal Logic, except that it may perhaps be as well to exclude mathematical expressions from Formal Logic in the narrower sense.

## CONCLUSION.

The final outcome of our inquiry may be summed up as follows.

(1) The expressions Being, Existence and Reality, should be employed only in the strict sense of actual existence in the world of reality. The commonly accepted doctrine of various modes of empirical existence in different universes of discourse rests on a confusion of thought. There are, of course, different modes of existence, as, for instance, the physical and the psychical. But, given any one term, there are only two alternatives possible: either it does or it does not denote something real; if it does not denote something that exists in the actual world of reality, then it cannot denote anything that exists in any other world. The doctrine of the Universe of Discourse is the outcome of the elliptical use of language, and is useful in so far as it draws attention to such ellipsis. But it cannot, for that reason, support any doctrine of many forms of so-called empirical existence, corresponding to different worlds even other than the real world. For, in the last analysis, the real signification of such a doctrine simply amounts to this, that something exists, in the only mode in which it can exist and in the real world, but is elliptically described by one name when it should be called by another, as happens, for instance, when a term is employed in some aspect (say, the aspect of subjective intension) other than that of its objectivity.



(2) Using the expression Existence, and its synonyms, in the strict sense just indicated, existential implication cannot be permanently associated with any of the four propositional forms of common Logic ( $A$ ,  $E$ ,  $I$ ,  $O$ ), though it can, to some extent, be permanently associated with certain classes of judgments based on other than formal *fundamenta divisionis*. So far, therefore, as positive implication is concerned, the view of existential non-implication is the only one that can be legitimately adopted as regards the four propositional forms as such. On the other hand, the two universal forms carry with them invariably certain negative implications (non-existential implications):  $SaP$  implies the non-existence of  $S\bar{P}$  ( $S\bar{P} = 0$ ), and  $SeP$  implies the non-existence of  $SP$  ( $SP = 0$ ).

(3) There is no reason why Formal Logic should not adopt explicitly the view of existential non-implication, which (unlike the view advocated by Dr Venn and Dr Keynes, and in spite of their objections) would leave all the commonly accepted doctrines and inferences of traditional Logic absolutely unaffected.

(4) Nor is there any reason why Symbolic Logic should not explicitly adopt the view of existential non-implication, *plus* that of non-existential implication as regards  $S\bar{P}$  and  $SP$  in the case of  $SaP$  and  $SeP$  respectively.

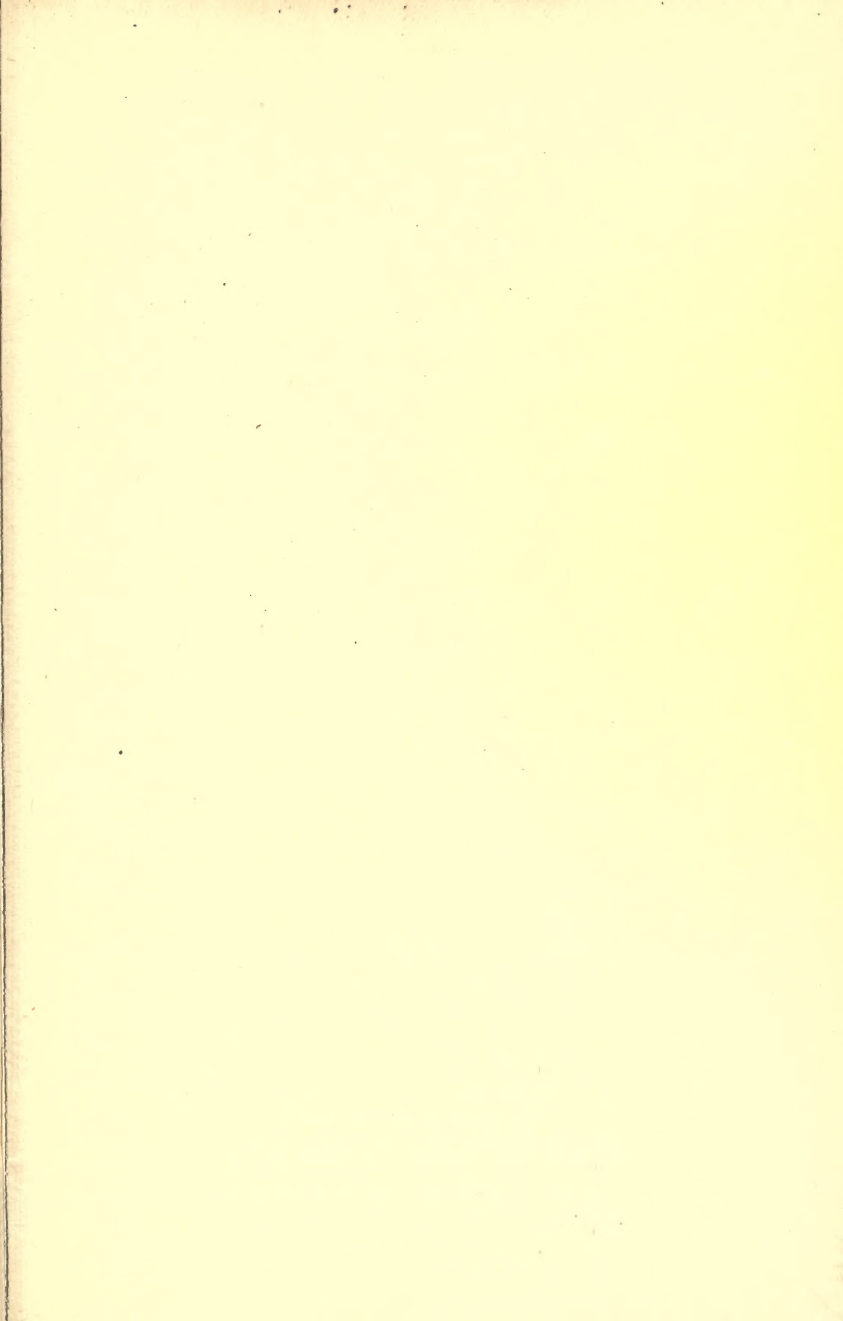
(5) At the same time both Formal Logic and Symbolic Logic (the latter more especially) can take full account of any existential or contra-existential information that may be known independently of the four propositional forms as such.

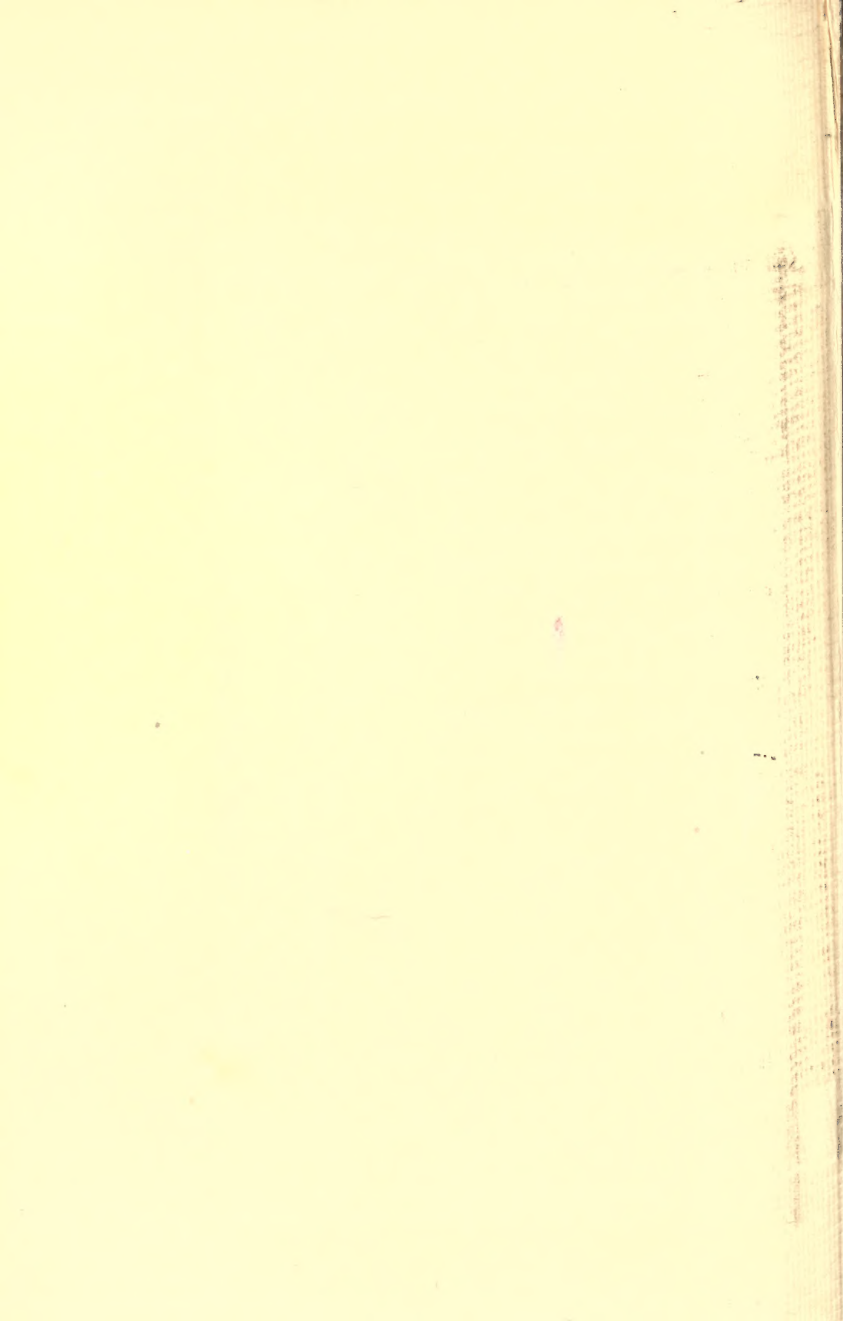
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